

Making Outcomes Matter: An Immodest Proposal for a New Consumer Financial Regulatory Paradigm

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ABSTRACT***

American consumers today access financial services in fragmented, product-specific marketplaces where each provider optimizes its consumer relationships based on profitability. Providers regularly exploit information advantages, geographical proximity, behavioral biases, high “shopping costs” and other asymmetries. Consumers, under pressure to make quick personal decisions, frequently make suboptimal or affirmatively damaging choices that benefit the provider and constrain the consumers’ options in follow-on decisions. The responsibility for managing outcomes in consumer financial services is—absent the most egregious abuse—left in the hands of the individual consumer. These practices arguably have led to suboptimal outcomes for all consumers and high levels of financial insecurity among the most vulnerable populations.

In the face of these problems, state and federal governments have, over time, adopted a variety of statutory and regulatory regimes intended to protect consumers. The resulting system of consumer financial regulation inconsistently advances the interests of consumers, particularly more vulnerable lower-income consumers, despite the existence of large bodies of law and regulation and an enormous investment in regulatory compliance by financial services providers. The system has historically operated in a data vacuum where regulators relied on disclosure-based regimes intended to inform consumer choice about product pricing and terms, narrow proscriptions regarding provider practices that impede informed decision making and limited interventions in prices and fees instead of insights about the real-world consequences of product usage.

This situation has begun to change. Digitization and the ongoing “big data” revolution, coupled with the emergence of new measures of “financial health” outcomes, now make it possible to analyze the impact on individuals of the use of financial services. This, in turn, may allow historic regulatory

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regimes to be reimagined using these new data capabilities.

Drawing from experiences with outcome-based regulation in the health care industry, we advance a three-stage proposal to better align financial services provider interests with improved customer outcomes through data analysis, public disclosure and market-based regulatory intervention. The proposal introduces a form of “outcomes-based regulation” to the financial services marketplace that has been advanced elsewhere. Implementation of the new framework would not be an immediate substitute for existing consumer financial protection law. But by generating an empirical basis for identifying harms and benefits correlated with particular practices or product features, it would for the first time allow policymakers to measure the impact of statutory and regulatory interventions, tailor policies to remedy harms incurred by users of particular products and providers and potentially determine product/practice “appropriateness” for particular consumer circumstances. When fully tested and implemented, the three-stage process should shift provider incentives meaningfully towards improved consumer outcomes, leading to a gradual shift away from prescriptive and disclosure-based regulation to a principles-based, data-driven, transparent “learning” system that leverages market mechanisms to deliver improved consumer financial health.

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INTRODUCTION

Financial services are an essential part of everyday life in the United States. Consumers use financial intermediaries to receive, store, and spend their income in a safe manner, access credit to buy goods and services, including cars, houses, and education, and invest for long-term security. Today, they can access thousands of financial products offered by tens of thousands of financial services providers. These products range from relatively simple products like savings accounts to dauntingly complex equity market investments. This system provides effective tools for the wealthier part of the population, but poorly serves most consumers living “on the edge” financially.¹ Financial services providers often exploit

¹ See *Financial Security and Mobility*, PEW CHARITABLE TRUSTS, <https://www.pewtrusts.org/en/projects/archived-projects/financial-security-and-mobility> (last visited Feb. 5, 2020); see also *The Issues*, EPIC (2017), <http://www.aspenepic.org/epic-issues/> (last visited Feb. 5, 2020); Todd Baker, *FinTech Alternatives to Short-Term Small-Dollar Credit: Helping Low-Income Working Families Escape the High-Cost Lending Trap* 5-9 (Harvard Kennedy Sch. Mossavar-Rahmani Ctr. for Bus. and Gov’t, Working Paper No. 75, 2017), <https://www.hks.harvard.edu/centers/mrcbg/publications/awp/awp75>; Corey Stone, *The Ends of the Month: A Blog Series*, FIN. HEALTH NETWORK (Aug. 1, 2018), <https://medium.com/@finhealthnet/the-ends-of-the-month-a-blog-series-425f5f5ad0bf>; DAVID LOW ET AL., CONSUMER FIN. PROT. BUREAU, DATA POINT: FREQUENT OVERDRAFTERS 6 (2017).

information asymmetry, “irrational” behavioral preferences, and distribution anomalies to deliver high-cost, low-value products and services to the latter cohort of consumers.² Partly as a result of these practices, members of this vulnerable population often exhibit chronically poor financial health.³

Efforts to protect consumers in the United States from this exploitation began as early as 1641 when Massachusetts set the maximum legal borrowing rate at 8% and continued with the adoption of “usury” laws by many states in the 18th and 19th centuries.⁴ Broader regulation of consumer financial products and services accelerated during the movement, led by the Russell Sage Foundation, to expand the availability of affordable consumer credit in the early 20th century.⁵ In more recent decades, the scope of consumer law and financial regulation in the United States has both widened and narrowed. The scope widened to cover an ever-expanding group of providers and products that make up the modern consumer financial sector. At the same time the scope of regulatory interventions narrowed, moving from more prescriptive forms of regulation towards regulation aimed primarily at enhancing consumers’ ability to select among competing financial products. The resulting regulatory scheme largely placed responsibility for outcomes, absent the most egregious abuse, in the hands of the consumer.

Industry and academic observers regularly argue that this system of consumer financial regulation fails to advance consumer interests, especially the interests of vulnerable lower-income consumers.⁶ A notable weakness of the current regulatory approach is a bias in favor of “consumer choice” effected through disclosure and a bias against examination of the actual

² See Stephen Lumpkin, *Consumer Protection and Financial Innovation: A Few Basic Propositions*, OECD J.: FIN. MKT. TRENDS, 7-9 (2010); see also Jae-Joon Han & Wonchang Jang, *Information Asymmetry and the Financial Consumer Protection Policy*, 21 ASIAN J. POL. SCI. 213, 213 (2013).

³ See THEA GARON ET AL., U.S. FINANCIAL HEALTH PULSE: 2018 BASELINE SURVEY RESULTS 10-19 (2018).

⁴ RANSOM H. TYLER, A TREATISE ON THE LAW OF USURY, PAWNS OR PLEDGES, AND MARITIME LOANS 50 (1891).

⁵ GUNNAR TRUMBULL, CONSUMER LENDING IN FRANCE AND AMERICA 25-27 (2014).

⁶ See John Y. Campbell et al., *Consumer Financial Protection*, 25 J. ECON. PERSP. 91 (2011); see also Jo Ann Barefoot, *Regulation Innovation: Failures and Costs of Consumer Financial Protection Regulation* 1-3 (Harvard Kennedy Sch. Mossavar-Rahmani Ctr. For Bus. and Gov’t, Working Paper No. 111, 2019), https://www.hks.harvard.edu/sites/default/files/centers/mrcbg/working.papers/AWP_111_fi nal.pdf; *Top Examples of Financial Regulatory Failure: Why We Need the Consumer Financial Protection Agency*, CONSUMER FED’N OF AM., https://consumerfed.org/wp-content/uploads/2010/08/Top_Examples_of_Financial_Regulatory_Failure.pdf (last visited Feb. 6, 2020).

outcomes for consumers using financial products.⁷ While individual studies⁸ have assessed specific regulatory approaches for impact and efficiency,⁹ neither a theoretical framework nor adequate empirical information has been available to test the impact on consumers' well-being. The tautological nature of the "consumer choice" construct is one major contributor to this dearth of analysis: the presumptions that the markets for financial services are competitive and that consumers rationally and knowledgeably choose what is best for themselves obviates any need to assess whether consumer welfare has been maximized.¹⁰ Another contributor is poor access to the information about outcomes necessary for data-based analysis and policy formulation.

As in many other areas of contemporary life, the "big data" revolution may open new pathways to solving old problems.¹¹ Digital customer data is central to the operations of financial services providers and is used regularly for marketing, credit, account servicing and collection purposes. Measurement of individual consumer financial outcomes is now possible by combining standardized digital customer data with newly designed "financial health" metrics.¹² This, in turn, may allow us to rethink historic approaches to regulation and , over time, to replace major parts of the current system with outcomes-based approaches.

Something similar is already occurring in the health care field. Increasingly, health care market participants use outcomes-based data to guide a wide range of medical practices and clinical decisions—as well as associated financial incentives—for hospitals, physicians and medical service providers. Insurers (and the state and federal governments that

⁷ The tension between disclosure-based consumer choice regulation and more overtly protective forms of regulation has become embedded in U.S. political discourse. Periodic efforts to drive regulation in a less choice-focused direction have had only limited success in challenging the primacy of disclosure as a regulatory tool. The recent politically driven attempts to challenge the constitutionality and reduce the scope of the CFPB are one example. Mallory E. SoRelle, *Will Republicans be Able to Dismantle the Consumer Financial Protection Bureau?*, WASH. POST (Feb. 13, 2018, 6:00 AM), <https://www.washingtonpost.com/news/monkey-cage/wp/2018/02/13/this-is-why-republicans-have-the-consumer-financial-protection-bureau-in-their-crosshairs/>.

⁸ See, e.g., Howell E. Jackson & Paul Rothstein, *The Analysis of Benefits in Consumer Protection Regulations*, 9 HARV. BUS. L. REV. 197, 301 (2019); Lauren E. Willis, *Performance-Based Consumer Law*, 82 U. CHI. L. REV. 1309, 1330 (2015).

⁹ The overall cost of financial regulation (which includes far more than the consumer regulation that is the subject of this article) is, by all accounts, enormous. See Gregory Elliehausen, *The Cost of Bank Regulation: A Review of the Evidence*, 84 Fed. Res. Bull. 252 (Apr. 1998).

¹⁰ See Richard Thaler, *Toward a Positive Theory of Consumer Choice*, 1 J. ECON. BEHAV. & ORG. 39 (1980).

¹¹ Abby Abazorius, *How Data Can Help Change the World*, MIT NEWS (Sept. 2016), <http://news.mit.edu/2016/IDSS-celebration-big-data-change-world-0926>.

¹² Digitized data is essential to both modern credit analysis and marketing and underpins the enormous market in asset-backed securities. See *infra* Section II.E.

administer Medicare and Medicaid) represent powerful payor interests that are largely aligned with patient wellbeing. Increasingly, a variety of standardized¹³ metrics enable payors to reward providers for lowering costs and improving patient outcomes.

We turn first to a discussion of the health care example before exploring whether, and how, the lessons learned in that area can be applied to the creation of an outcomes-based system of consumer financial regulation.

I. THE IMPACT OF MEASURING HEALTH OUTCOMES

A. *The Use of Outcomes Measurement in Health Care.*

Over three or more decades, the health care data ecosystem in the U.S. has evolved to make it possible to measure patient health outcomes¹⁴ in new ways and across a growing number of health care providers. Patient health outcomes are changes to an individual's health following medical interventions, like survival following hospitalization for cardiac arrest or improved limb function following orthopedic surgery.

These developments arguably began with the creation of codes for diagnosis-related groups (DRGs) in the early 1980s, which first enabled hospitals to keep standardized records of the particular treatments individual patients received.¹⁵ An initial motivation behind the introduction of DRGs was cost control and fraud mitigation. The federal agency that later became the Centers for Medicare and Medicaid Services (CMS) required that providers' invoices for reimbursement record what care was delivered in terms of specific DRG codes¹⁶ for each patient hospital stay. Versions of DRGs subsequently adopted through state legislation have become the standard template for provider invoicing to private health insurers.¹⁷

DRGs allowed government and private health care payors to set

¹³ For example, one organization, the International Consortium for Health Outcomes Measurement, has assembled lists of standard measures of treatment outcomes pertaining to a variety of specific diagnoses and conditions. See INT'L CONSORTIUM FOR HEALTH OUTCOMES MEASUREMENT, <https://www.ichom.org> (last visited Oct. 18, 2020). For a literature review on measurements of medical well-being, see Ryan Bart et al., *The Assessment and Measurement of Wellness in the Clinical Medical Setting: A Systematic Review*, 15 (9-10) INNOVATIONS IN CLINICAL NEUROSCIENCE 14 (2018).

¹⁴ *Outcomes*, CANADIAN INST. FOR HEALTH INFO., <https://www.cihi.ca/en/outcomes> (last visited Feb. 7, 2020).

¹⁵ JUDITH MISTICHELLI, DIAGNOSIS RELATED GROUPS (DRGs) AND THE PROSPECTIVE PAYMENT SYSTEM: FORECASTING SOCIAL IMPLICATIONS I (1984).

¹⁶ There were originally 467 of these codes, connoting specific diagnoses. See *id.*

¹⁷ Jon Chilingierian, *Origins of DRGs in the United States: A Technical, Political, and Cultural Story*, in THE GLOBALIZATION OF MANAGERIAL INNOVATION IN HEALTH CARE 4, 17 (John R. Kimberly et al. eds., 2009).

standard reimbursement amounts across different providers, making costs more predictable and imposing (and facilitating) provider cost accounting and discipline. Over time, records of which treatments each patient received were used to set expectations regarding lengths of stay and rudimentary standards of care such as minimum, maximum, and expected numbers of days of hospitalization for particular procedures.¹⁸

The measure of care delivery inputs (i.e., what procedures, tests, and other units of care have been provided) eventually included the identities of individual physicians and other medical professionals delivering care to particular patients.¹⁹ Record-keeping at this level of detail gave insurers and health care institutions new abilities to analyze care quality while also managing costs and revenues. Forensic analysis of negative outcomes data increasingly made it possible to identify procedures (or caregivers) gone wrong or standards of care not adhered to, resulting in revisions and improvements in internal policies, processes, and even staffing decisions.

Since the introduction of DRGs, a related regime of formal reporting on provider quality and patient outcomes for publicly funded health care procedures evolved through a combination of federal legislation and administrative rulemaking. In 2001, CMS first launched its Quality Initiatives “to assure quality health care for all Americans through accountability and public disclosure.”²⁰ The Deficit Reduction Act of 2005 imposed new reporting requirements for inpatient stays.²¹ A separate program for outpatient quality reporting became effective beginning calendar year 2009.²² CMS also introduced additional reporting requirements to track and reduce hospital readmissions in 2012²³ and requirements to track hospital-acquired conditions in 2015.²⁴

¹⁸ For an example of the impact of this in practice, see Aileen DeJelo & Tali Edge, *Diagnosis Related Groups (DRGs) and Impact on Hospital Length of Stay (LOS)*, NAT’L ASS’N HEALTH SERVS. EXECUTIVES-HOUS. CHAPTER, <https://www.nahsehouston.org/2019/06/24/diagnosis-related-groups-drgs-and-impact-on-hospital-length-of-stay-los/> (last visited Feb. 9, 2020).

¹⁹ The largest national data set of practice- and physician-level measure usage and outcomes is the Healthcare Effectiveness Data and Information Set, managed by the non-profit National Committee for Quality Assurance. A combination of private and public (i.e. Medicare and Medicaid) insurers report usage and outcomes data on 191 million consumer members’ health care interactions with physicians and other providers. *HEDIS Measures and Technical Resources*, NAT’L COMMITTEE FOR QUALITY ASSURANCE, <https://www.ncqa.org/hedis/measures/> (last visited September 21, 2020).

²⁰ *Quality Initiatives - General Information*, CENTERS FOR MEDICARE & MEDICAID SERVICES, <https://www.cms.gov/Medicare/Quality-Initiatives-Patient-Assessment-Instruments/QualityInitiativesGenInfo/index> (last visited Feb. 6, 2020).

²¹ *Hospital Inpatient Quality Reporting Program*, CENTERS FOR MEDICARE & MEDICAID SERVICES, <https://www.qualitynet.org/inpatient/iqr> (last visited Feb. 6, 2020).

²² *Id.*

²³ As required under the Affordable Care Act. See *Hospital Readmissions Reduction Program*, CENTERS FOR MEDICARE & MEDICAID SERVICES, <https://www.cms.gov/Medicare/Medicare-Fee-for-Service-Payment/AcuteInpatientPPS/Readmissions-Reduction-Program> (last visited Feb. 6, 2020).

²⁴ See *Hospital Acquired Condition Reduction Program (HACRP)*, CENTERS FOR MEDICARE & MEDICAID SERVICES, <https://www.cms.gov/Medicare/Medicare-Fee-for-Service-Payment/AcuteInpatientPPS/HAC-Reduction-Program> (last visited Feb. 7, 2020).

Patients' perceptions of their treatment quality and their assessment of their physical and mental well-being have also become part of outcomes measurement. For example, CMS requires hospitals to conduct qualitative surveys of patients to measure their experience during hospital stays.²⁵ Patients are surveyed using a standard survey instrument mandated under the Affordable Care Act, which asks 29 questions regarding the patient's experience of communications with professionals during their stay and follow-up.²⁶

Most of the developed world is also incorporating more outcomes-based measurements and disclosure in their respective health care industries. A combination of governmental, insurer, and academic efforts are leading to internationally shared frameworks for measuring outcomes.²⁷

B. *Quality Reporting and the Health Care Data Ecosystem*

DRG-based invoicing and treatment and government payor-imposed quality reporting requirements require health care providers to adopt information systems that are up to these tasks. Federal initiatives to support health care information technological modernization bolster provider technology investments and help explain the growing trend of consistent data standardization and analysis.

For example, CMS has required hospitals and their IT vendors to certify their information systems and data collection practices in order to become approved as Medicare and Medicaid providers.²⁸ These programs

²⁵ See *HCAHPS: Patients' Perspectives of Care Survey*, CENTERS FOR MEDICARE & MEDICAID SERVICES, <https://www.cms.gov/Medicare/Quality-Initiatives-Patient-Assessment-Instruments/HospitalQualityInits/HospitalHCAHPS> (last visited Feb. 6, 2020). Broader definitions of patients' physical and mental well-being have not (yet) been incorporated as incentivized outcome measures. However, since the early 1990s, a 36-question survey developed by the Rand Corporation that has come to be known as the "Short Form 36" (SF-36) has become a standard for assessing the long term effects of a variety treatments and comparing the outcomes and relative cost-effectiveness of different treatments used for the same diagnoses. See *36-Item Short Form Survey (SF-36)*, RAND CORP., https://www.rand.org/health-care/surveys_tools/mos/36-item-short-form.html (last visited Feb. 7, 2020).

²⁶ *HCAHPS: Patients' Perspectives of Care Survey*, *supra* note 25.

²⁷ For example, one organization, the International Consortium for Health Outcomes Measurement, has assembled lists of standard measures of treatment outcomes pertaining to a variety of specific diagnoses and conditions. See INT'L CONSORTIUM FOR HEALTH OUTCOMES MEASUREMENT, <https://www.ichom.org> (last visited Oct. 18, 2020). For a literature review on measurements of medical well-being, see Ryan Bart et al., *The Assessment and Measurement of Wellness in the Clinical Medical Setting: A Systematic Review*, 15 INNOVATIONS IN CLINICAL NEUROSCIENCE 14 (2018).

²⁸ The Department of Health and Human Services issued its most recent rule regarding the Office of the National Coordinator, Health IT Certification Program: Enhanced Oversight and Accountability on October 19, 2016. 45 C.F.R. § 170 (2019).

are administered by an office of the National Coordinator of Health Information Technology within the Department of Health & Human Services (HHS).²⁹ Separately, Congress and federal agencies have also encouraged hospitals, medical practices, and other providers to adopt fully digitized patient records: the American Recovery and Reinvestment Act of 2009 (ARRA) earmarked \$49 billion for the purpose.³⁰ In 2016, the 21st Century Cures Act mandated HHS assure the interoperability of providers' electronic health records, including patient medical information portability between providers.³¹

Digitization of health care records using standardized fields and interoperable formats have required massive investments by providers.³² Nonetheless, this effort is poised to further increase the amount of data available for identifying patient conditions, provider treatments and processes, and correlating them with patient outcomes. Opportunities to mine “big data” in health care promise further quality and outcome improvements.

C. Public Disclosure of Outcomes Data, Competition, and Performance Incentives

Government imposition of quality and outcomes reporting on hospitals has been accompanied by public disclosure of the data. Public availability of outcomes by provider and procedure has, in turn, fostered fruitful scientific research and enhanced competition, both of which have played an important role in this quality improvement dynamic.

²⁹ See *About The ONC Health IT Certification Program*, OFF. NAT'L COORDINATOR FOR HEALTH INFO. TECH. (ONC), <https://www.healthit.gov/topic/certification-ehrs/about-onc-health-it-certification-program> (last updated June 17, 2020).

³⁰ See Taylor Burke, *The Health Information Technology Provisions in the American Recovery and Reinvestment Act of 2009: Implications for Public Health Policy and Practice*, 121 PUB. HEALTH REP. 141, 141 (2010).

The Health Information Technology for Economic and Clinical Health (HITECH) Act established programs under Medicare and Medicaid to provide incentive payments for the “meaningful use” of certified electronic health records (EHR) technology. To further accelerate the implementation of EHR systems, CMS and DHHS established an “EHR (Electronic Health Record) Incentive” program as well as an Office of the National Coordinator for Health Information Technology within HHS to administer the incentives. See Health Information Technology for Economic and Clinical Health Act (HITECH), 42 U.S.C. § 300jj (2018).

³¹ For HHS's proposed rulemaking implementing interoperability requirements, see 21st Century Cures Act: Interoperability, Information Blocking, and the ONC Health IT Certification Program, 84 Fed. Reg. 7424 (proposed Mar. 4, 2019) (to be codified at 45 C.F.R. pts. 170-171).

³² The massive IT investment required to build and certify digitized patient accounting and records systems, along with the push for systems interoperability across providers, has probably increased scale advantages among providers and led to the acceleration of their concentration and integration. See A. Jay Holmgren & Julia Adler-Milstein, *Does Electronic Health Record Consolidation Follow Hospital Consolidation?*, HEALTH AFF. (Mar. 7, 2019), <https://www.healthaffairs.org/doi/10.1377/hblog20190304.998205/full/>.

The vast stores of treatment and outcomes data—which carry with them the potential to aggregate data across providers—are also being used by government, providers, pharmaceutical companies, and academicians for scientific and policy research. For example, treatments and outcomes data have been used to correlate different treatment approaches with different outcomes, document the incidence and natural histories of diseases, target areas of funding for cure development, measure the social determinants of health and disease and conduct cost-benefit analyses to determine which treatments are effective and worthy of reimbursement and public investment to improve them.³³ This, in turn, has led to the creation of new areas of data measurement and analysis – arguably a virtuous circle that has begun to improve care while containing health care costs.

Public disclosure of quality and outcomes data has also introduced new levels of competition and performance incentives into the health care marketplace. For example, at the local level in competitive health care markets, consumers and referring physicians have been able to use outcomes and quality metrics in making decisions about which hospitals they might select for treatment.³⁴ The public disclosure of quality and outcome metrics may also have heightened competition as private insurers and preferred provider organizations (PPOs) may use such metrics as criteria for inclusion in or exclusion from their provider networks.³⁵

The largest payors use competitive data to introduce performance incentives to providers. Most importantly, the federal government's Medicare and Medicaid programs, which today account for 37% of U.S.

³³ See, e.g., David M. Eddy et al., *The Potential Effects Of HEDIS Performance Measures On The Quality Of Care*, 27 HEALTH AFF. 1429 (2008) (the authors examine measures performed on patients with cardiovascular and diabetes during the 1995-2005 timeframe, correlate measures associated with outcomes, and estimate reductions in heart attacks, strokes, and end-stage renal disease that would have occurred had all patients received measures associated respectively, with treatment plans that produced the median and top patient outcomes).

³⁴ Some of the data are made available for this purpose through Hospital Compare, a website provided by CMS that permits comparisons of hospital outcomes within a local market. The site provides over 125 different measures of care outcomes for common diagnoses. Hospital Compare also provides HCAHPS survey results for each hospital. And it computes overall hospital quality ratings based on composite scores that incorporate as many as 57 different quality metrics. See *Hospital Compare*, MEDICARE.GOV, <https://www.medicare.gov/hospitalcompare/search.html?> (last visited Feb. 6, 2020). However, there is some evidence that providers do not respond to unfavorable quality comparisons with competitors by making improvements. Daniel J. Crespin et al., *Do Health Systems Respond to the Quality of Their Competitors?*, 25 AM. J. MANAGED CARE 103, 110 (2019).

³⁵ However, we have not identified research that has studied this competition effect from public disclosure of provider outcomes metrics.

health care expenditures,³⁶ have tied small portions³⁷ of hospital reimbursements (in the form of bonuses credited—or penalties debited from—reimbursements) to absolute and relative (in comparison to peers) levels of readmissions and hospital-acquired conditions. Separately, the 2010 Affordable Care Act introduced the concept of “value-based purchasing” for federally funded care, which gave teeth to quality metrics.³⁸ Private insurers have followed suit with their own sets of metrics and quality and cost control performance incentives.³⁹

It appears likely that imposing quality and outcomes metrics on health care providers, along with public disclosure, resulted in greater competition to demonstrate better outcomes than competitors.⁴⁰ These measures have arguably rested on improved patient outcomes and treatment quality industry-wide.⁴¹ The impact from the more recent imposition of economic incentives and penalties tied to patient outcomes is less clear.⁴²

³⁶ See *National Health Expenditures 2018 Highlights*, CENTERS FOR MEDICARE & MEDICAID SERVICES, <https://www.cms.gov/files/document/highlights.pdf> (last visited Feb. 6, 2020).

³⁷ For example, bonuses and penalties for relative performance under the Hospital Readmission Reduction Program can be as much as 3% of standard reimbursement amounts. See *Hospital Readmission Reduction Program*, CENTERS FOR MEDICARE & MEDICAID SERVICES, <https://www.cms.gov/Medicare/Medicare-Fee-for-Service-Payment/AcuteInpatientPPS/Readmissions-Reduction-Program> (last visited Feb. 6, 2020).

³⁸ Under CMS’ Hospital Value-Based Purchasing Program, CMS makes incentive payments to hospitals, based either on how well the hospitals perform on certain outcome and quality measures compared with other hospitals or how much a hospital’s performance improves on certain quality measures as compared to a baseline period. See *The Hospital Value-Based Purchasing (VBP) Program*, CENTERS FOR MEDICARE & MEDICAID SERVICES, <https://www.cms.gov/Medicare/Quality-Initiatives-Patient-Assessment-Instruments/Value-Based-Programs/HVBP/Hospital-Value-Based-Purchasing> (last visited May 18, 2020).

³⁹ See Meredith B. Rosenthal, Rushika Fernandopulle, HyunSook Ryu Song & Bruce Landon, *Paying For Quality: Providers’ Incentives For Quality Improvement*, 23 HEALTH AFFAIRS 127 (2004).

⁴⁰ The mechanisms by which intensified competition may have had effects on quality—whether through consumer decisions, decisions made by referring professionals, decisions made by payors such as CMS or private insurers, or simply quality improvement actions taken by provider management in response to the reputational impacts of public disclosures of patient outcomes—are uncertain.

⁴¹ One academic who follows the impact of outcomes measurement in health care has attributed a 35% reduction in mortality rates among Medicare patients reporting to emergency rooms with chest pain (and potential heart attack) symptoms to broader adoption of procedures proven to be efficacious through measuring the timeliness of care and patient outcomes and publicly disclosing comparative measures among hospitals. “Instead of cutting off the tail of worst performers, we have [created comparative metrics that have] shifted the entire curve of industry performance to a higher level.” Interview with Dr. Halan Krumholz, Dir., Yale Ctr. for Outcomes Research and Evaluation (Jan. 3, 2020); see also Harlan M. Krumholz et al., *Twenty-Year Trends in Outcomes for Older Adults with Acute Myocardial Infarction in the United States*, JAMA NETWORK OPEN (Mar. 15, 2019), <https://jamanetwork.com/journals/jamanetworkopen/fullarticle/2728009>.

⁴² See Rosenthal et al., *supra* note 39; Tim Doran et al., *Impact of Provider Incentives on Quality and Value of Health Care*, 38 ANN. REV. PUB. HEALTH 449, 459 (2017).

D. Some Implications of Outcomes Measurement, Population Baselines, Provider Flexibility, and Patient Behavior

Acknowledging how differences in populations affected outcomes. The measurement of outcomes in the health care sector has raised methodological and procedural challenges that are relevant to the measure of consumer outcomes and welfare in other realms of the economy and society.

Comparing health care providers and holding each fairly accountable for patient outcomes requires accounting for differences in the populations served and the different health risks present in those populations. “Risk adjusted” or “risk-weighted” scores presented by Hospital Compare,⁴³ for example, account for differences in the socio-economic characteristics of patients and their attendant health care risks—thereby making comparisons fairer. The growing wealth of available health data has made it possible to understand the “social determinants of health” and how these are likely to affect outcomes among a particular patient population independently of their health care provider.

Provider autonomy needn’t be reduced. Given that outcomes and quality data will contribute to the evolving definitions of standards of care in the health care system as a whole, individual providers will likely pay equal attention to their own patient data and care metrics to establish better policies and practices. Comparative metrics may demonstrate best practices but needn’t constrain a provider’s ability to set its own internal policies. Data to measure what works and incentives to improve outcomes remain critical. Thus, providers may pursue different outcome improvement strategies. Some providers will seek to improve internal processes, while others will focus on building the skills and knowledge of their professionals, contractors, and referrals partners. Others will assess the comparative effects of different treatment approaches and medications for a particular diagnosis within their served populations.

Acknowledging the roles of patient behavior and choice as outcome factors. Patient behavior is another area of continual focus for outcomes management. Reminder “nudges,” and more direct devices to assure patient “compliance” with medical prescriptions or physical therapy, acknowledge

⁴³ See *30-Day Unplanned Readmission and Death Measures*, MEDICARE.GOV, <https://www.medicare.gov/hospitalcompare/Data/30-day-measures.html> (last visited Feb. 9, 2020) (“To accurately compare hospital performance, the readmission and death measures adjust for patient characteristics that may make readmission or death more likely. These characteristics include the patient’s age, past medical history, and other diseases or conditions (comorbidities) the patient had when they were admitted that are known to increase the patient’s chance of dying or of having a readmission.”).

the role that patients play in their own treatment.⁴⁴ Providers are most likely to employ such tools among elderly patients and among socio-economically “vulnerable” populations who may lack the economic or cognitive resources to keep up their treatments. But all patients are increasingly subject to such measures. And the availability of outcomes data permits testing and documentation—e.g., through easily constructed randomized control trials—of the impacts of such behavioral interventions.

Application to other areas. While evidence of the benefits of “big data” approaches in the health care industry is not unmixed, there is a general consensus that quality of care and patient outcomes have benefited significantly from investment in, and deployment of, patient data and associated analytics to measure and improve patient health care outcomes. We ask: can similar process- and outcomes-based metrics and incentives be productively introduced in consumer finance markets as a potential supplement or alternative to existing regulatory approaches?

II. DIFFERENCES BETWEEN HEALTH CARE AND CONSUMER FINANCE RELEVANT TO “FINANCIAL HEALTH” CONCEPTS

At first glance, the market structures that characterize consumer finance in the U.S. would appear to impede the effective deployment of outcomes measurement and related performance incentives among financial service providers. These barriers reflect the distinct historical evolution of the two fields as well as prevailing philosophical and political views regarding the appropriate roles of medical and financial services providers--and of government--in their respective markets.

A. *Duty of care.*

In the health care field, licensed professionals and institutions (i.e., doctors and hospitals) are legally and ethically responsible, as a condition for obtaining and maintaining license to practice and in adherence to the Hippocratic Oath, for managing patient outcomes optimally, subject to limited overrides on the basis of individual rights (e.g., a competent patient may refuse recommended treatment). In contrast – at least in the case of lending, deposits and payments markets⁴⁵ — financial services providers and

⁴⁴ E.g., Eliso Costa et al., *Interventional Tools to Improve Medication Adherence: Review of Literature*, 9 PATIENT PREFERENCE AND ADHERENCE 1303, 1304 (2015).

⁴⁵ Licenses obtained by insurers and their brokers at the state level impose both legal and ethical restrictions, as do some securities licenses. But these restrictions do not obligate the providers to recommend or sell what is in the consumer’s best interests. For example, the inaptly named “Regulation Best Interest” for registered securities broker-dealers adopted by the SEC in 2019 mandates disclosure of conflicts of interest and a minimal duty of care on providers rather than imposing a fiduciary or outcomes-based standard. 17 CFR §240.15I-1 (2019). While there are some trustee or advisory roles that do require acting in the consumers’

their employees and agents have no general duty to recommend the best alternative to a customer nor are they subject to any obligation like the physician's ethical duty to "do no harm."⁴⁶ Moreover, a financial services provider has no ongoing responsibility for post-transaction follow up, counseling, referrals or other actions with respect to the consumer. Outside of the most egregious abuses (e.g., fraud), the responsibility for outcomes in consumer financial services is left in the hands of the individual consumer.⁴⁷

Without an imperative to draw links between provider products and practices and consumers' broader financial outcomes, provider incentives are frequently misaligned with customer interests. While in many cases what is good for the provider can be good for the consumer, providers can, and do, offer and benefit from products that result in predictably negative outcomes for consumers. Each provider optimizes its relationship with a consumer based primarily on profitability. Providers regularly exploit information advantages, geographical proximity, behavioral biases, high "shopping costs," and other asymmetries.⁴⁸ In the worst contexts, consumers, under pressure to make quick personal decisions, frequently make suboptimal or damaging choices that benefit the provider and constrain the consumers' options in follow-on decisions.⁴⁹

best interests, their purview falls outside of the deposit and credit products that comprise the most widely used consumer financial services, and employ no defined concepts of what is "optimal" with respect to acting in a client's interests (outside of the unique judgement of each provider).

⁴⁶ Note that certain specific practices are prohibited and consumer lenders have been held liable under contract and tort theories in numerous cases. *See* Real Estate Settlement Procedures Act, 12 U.S.C. § 2607 (prohibition on kickbacks and other financial arrangements); GERALD L. BLANCHARD, *LENDER LIABILITY: LAW, PRACTICE AND PREVENTION* (2020).

⁴⁷ There are many reasons for these profound differences. Some are historical. The early emergence of medicine as a licensed profession resulted in the adoption of ethical standards (e.g., the Hippocratic Oath) relating to patient care and conflicts of interest, and a system of professional self-policing to enforce those standards. This self-regulating system was the "price" paid for the exclusive right to practice medicine that society granted to doctors. No analogous professional structure has ever been created governing banking-type financial services providers and, with a few exceptions, anyone can act as a provider of those financial products and services.

⁴⁸ As one example, in a recent study, consumers in a credit setting were shown to be unable to translate interest rates into dollar-cost obligations when comparing installment and revolving credit alternatives. The author argues that gravitation of unsecured credit from installment loans involving fixed payments to revolving credit priced using interest rates (APRs) has shrouded the cost of credit, resulting in increased costs of credit and over-use of credit. Mary Zaki, *Interest Rates: Prices Hidden in Plain Sight 4-7* (Sept. 11, 2018) (unpublished manuscript), <https://ssrn.com/abstract=3168043>.

⁴⁹ Some providers even make a profit when their product harms the consumer. For example, a payday loan typically does not become profitable for a payday lender if it is used "as advertised"—that is to say as a short-term advance that is repaid in full within a week or two in exchange for a fee. The costs associated with that transaction are greater than the fee that the lender earns. It is only when the initial advance is "rolled over" (i.e. not paid off but extended by adding an additional fee) several times, that the loan becomes profitable. And it

The misalignment of incentives is most obvious in the case of low income consumers, particularly those with short-term liquidity needs.⁵⁰ These consumers are frequently under intense time pressure and often lack access to the information, financial tools and trusted advice taken for granted by the more affluent. They are also affected by behavioral biases aggravated by “scarcity”⁵¹ which impede decision making, as well as by “shrouded” attributes that lead to overlooking or discounting future product costs.⁵² As a result, many of the most vulnerable U.S. consumers generate a disproportionate share of revenue and profit in particular product categories, cross-subsidizing low-cost or “free” use of the products by consumers who are less constrained.⁵³

B. *Fragmentation by product*

Health care systems allow for, and increasingly promote, “primary care” relationships intended to ensure that treatments are coordinated, and outcomes optimized. Many private insurance plans require that patients designate a primary care physician who can act as the “quarterback” of patient treatment wherever and by whomever it is provided. Each provider in medicine has the obligation to share data and patient records with other

remains profitable even if the borrower defaults (which 60% of them ultimately do). So, a payday lender’s business model wins when its customers fail. Mark J. Flannery & Katherine A. Samolyk, *Scale Economies at Payday Loan Stores*, PROC. FED. RES. BANK OF CHICAGO’S 43RD ANN. CONF. ON BANK STRUCTURE AND COMPETITIVENESS 233 (2007). The high level of charge-offs is often masked by industry-provided statistics that show low levels of defaults (e.g., 5%) on individual payday loans. But when default rates are considered cumulatively for multi-loan rollovers the losses can be ten times that rate.

⁵⁰ Todd Baker, *The Power of the Salary Link: Assessing the Benefits of Employer-Sponsored FinTech Liquidity and Credit Solutions for Low-Wage Working Americans and their Employers* 2-3 (Harvard Kennedy Sch. Mossavar-Rahmani Ctr. For Bus. and Gov’t, Working Paper No. 88, 2018),

https://www.hks.harvard.edu/sites/default/files/centers/mrcbg/working.papers/88_final.pdf.

⁵¹ See Marieke Bos et al., *Economic Scarcity and Consumers’ Credit Choice*, SWEDISH HOUSE FIN., Oct. 2016, at 2-

3, https://files.consumerfinance.gov/f/documents/128_VanSanten_EconomicScarcityAndConsumerCreditChoice.pdf. See generally SENDHIL MULLAINATHAN & ELДАР SHAFIR, SCARCITY: WHY HAVING TOO LITTLE MEANS SO MUCH (2013).

⁵² Xavier Gabaix & David Laibson, *Shrouded Attributes, Consumer Myopia, and Information Suppression in Competitive Markets*, 121 Q. J. ECON. 505, 512 (2006).

⁵³ The best known example of this tendency among banks can be found in “free checking” accounts, which are made available to all customers and are costly for a bank to service, but which generate profit principally from bank overdraft protection products used heavily by a small portion of the bank customer base—largely lower income customers. See *Heavy Overdrafters: A Financial Profile*, PEW CHARITABLE TRUSTS (April 20, 2016), <https://www.pewtrusts.org/en/research-and-analysis/fact-sheets/2016/04/heavy-overdrafters>; *Overdraft: The Need for New Rules*, PEW CHARITABLE TRUSTS (Jan. 21, 2016), <https://www.pewtrusts.org/en/research-and-analysis/articles/2015/04/overdraft-the-need-for-new-rules>. The dynamic for credit cards is similar. See Aaron Klein, *Opinion: How Credit Card Companies Reward the Rich and Punish the Rest of Us*, L.A. TIMES (Dec. 20, 2019, 3:00 AM), <https://www.latimes.com/opinion/story/2019-12-20/opinion-how-credit-card-companies-reward-the-rich-and-punish-the-rest-of-us>.

providers and to refer patients to specialists where clinically appropriate. Sharing of medical records—assisted by strong legal protection of patient data rights—and ensuring that the entirety of a patient’s medical history and circumstances can be factored into providers’ treatment decisions is a touchstone of medical practice. While the transfer of patient records was a cumbersome process in the pre-digital age, the ongoing digitization of patient records and increased systems interoperability are making this much easier and less costly.⁵⁴

In contrast, the typical primary consumer financial relationship is narrow and one dimensional. While the relationship that most consumers have with the bank or credit union that provides their primary checking account is important, even those providers have historically had limited insight into other financial services those consumers use, let alone their overall financial circumstances. More often than not, other institutions provide the consumer with mortgages, car loans, or credit cards. Despite providers’ belief that “owning the customer” through multiple customer product relationships is critical for customer retention and marketing cost reasons, achieving deep relationships is difficult in the fragmented market.⁵⁵ Access to information about relationships any consumer has with other providers has, until recently, been limited for technical and competitive reasons. This makes it unlikely that any individual provider would consider itself responsible for the broader financial situation of any customer. As we note below, some of the historical information barriers in this area are falling rapidly.

C. Presumption of competition and regulation by disclosure

While the medical system depends in large measure on standardization with respect to diagnoses, treatment protocols and the like, financial services industry offerings are notably diverse. Large health care payors expect (and enforce) adherence to standards of care and (in the case of CMS) exert pricing pressure and uniformity. Medical information asymmetry is enormous — consumers are generally unable to assess their needs for particular treatments or (at least until disclosure of comparative outcomes information) engage in effective comparative shopping among providers. In contrast, the provision of financial services is highly competitive. Many consumers enjoy relatively easy access to a variety of providers and products and can (and do) satisfy discrete financial needs from

⁵⁴ The authors acknowledge that there is some health provider resistance to government interventions designed to assure interoperability of providers’ electronic health records systems. See Kenneth D. Mandl & Isaac S. Kohane, *Epic’s Call to Block a Proposed Data Rule is Wrong for Many Reasons*, STAT (Jan. 27, 2020), <https://www.statnews.com/2020/01/27/epic-block-proposed-data-rule/>.

⁵⁵ See, e.g., Suchitra Nair, *Owning the Banking Customer Relationship: An Obstacle Race*, DELOITTE PERSP., <https://www2.deloitte.com/uk/en/pages/financial-services/articles/owning-the-banking-customer-relationship.html> (last visited Oct. 18, 2020).

different providers. A range of substitutable financial products (e.g., consumer loans) are available from a variety of providers (e.g., federal and state banks, state-licensed lenders, broker-dealers, payday lenders, check cashers, fintech lenders), in various forms (e.g., credit cards and installment loans) through different channels (e.g., bank branches, finance company offices, retail merchants, online lenders, mobile applications). These products are often structured and priced differently based on the nature of the provider or the channel and the regulatory regime that applies.

Consumers of financial services are presumed to optimize their utility by shopping and evaluating offerings from competing providers in a fully competitive market. Prescribed disclosures⁵⁶ are intended to facilitate ease of discovery and comparability, even when there is evidence that disclosed information does not inform many consumers' decisions and that consumers do not often shop for or compare competing products.⁵⁷

While limited shopping among providers has increasingly been encouraged in health care,⁵⁸ competition does not obviate a providers' general duties to act in the patient's best interests and to "do no harm." The standard applied in health care is typically "informed consent", which requires the provider to ensure that the patient is fully aware of the risks and benefits of any proposed procedure. This often takes the form of a lengthy discussion between a health care professional and a patient.⁵⁹

The situation is functionally the opposite in consumer finance, where economic and regulatory theory favors the idea of "consumer choice."⁶⁰ In this context, regulation has largely taken the form of prescribed disclosures intended to inform consumer decisions and to facilitate product comparisons. For some products, the regulations prescribe particular paper forms, formulas, and even font sizes used to disclose pricing and terms. In other

⁵⁶ See Truth in Lending Act, 15 U.S.C. §§ 1638(a), 1640; Truth in Savings Act 12 U.S.C. §§ 4301-4313.

⁵⁷ See, e.g., Talia B. Gillis, *Putting Disclosure to the Test: Toward Better Evidence-Based Policy*, 28 LOY. CONSUMER L. REV. 31, 50-51 (2015); Omri Ben-Shahar & Carl E. Schneider, *The Failure of Mandated Disclosure*, 159 U. PA. L. REV. 647, 666 (2011).

⁵⁸ See, e.g., DEBORAH D. GORDON, *THE HEALTH CARE CONSUMER'S MANIFESTO: HOW TO GET THE MOST FOR YOUR MONEY* 245-46 (2020).

⁵⁹ Despite the model provided by empathetic television doctors and nurses, these conversations may not take place as often or as effectively in practice as one would hope. Provider fear of liability may cause these conversations to take more legalistic forms—disclosing risks the patient probably cannot really understand, with patients relying on personal trust in the physician rather their own rational analysis to decide what is best.

⁶⁰ A key assumption underlying this approach is the economic theory that competition among producers for the business of well-informed customers will lead to an efficient market made up of financial products that will satisfy the needs of consumers. See Ben-Shahar & Schneider, *supra* note 57, at 650. In practice, "consumer choice" regulation relies most heavily on disclosure as the preferred method to protect consumers. See *id.*, at 652. Disclosure advocates take the view that good information should be able to make markets serve consumers better and avoid the externalities created by prescriptive regulatory solutions. See *id.*, at 650, 681-682. Despite the ubiquity of consumer-choice based disclosure regulation in the U.S., its failures have been well documented. See *id.* (criticizing the underlying assumptions of consumer-choice regulatory models).

cases, disclosure takes the form of a complex legal document to which consumers perfunctorily consent but almost never read. Many terms contained in such disclosures—including provider indemnifications and pricing for various “back end” penalties or exception fees—often constitute “shrouded attributes” that providers downplay and consumers either do not understand or presume to be the same among potential providers.⁶¹ In practice, consumers often choose financial services and providers based on heuristics⁶², filtered through marketing exposure, past experience, advice from family and friends, and an imperfect sense of what they can afford or qualify for.⁶³

Digital technology, including consumers’ use of online and mobile channels to shop for and obtain financial services, has made a positive difference in the effectiveness of disclosure for some, but has added new risks related to disclosure, trust, and the removal of useful friction from purchase decisions.⁶⁴ So-called advice or comparison sites, ranging from well-known companies like NerdWallet, Credit Karma and Bankrate to the

⁶¹ See Gabaix & Laibson, *supra* note 52, at 512.

⁶² Edna R. Sawady & Jennifer Tescher, *Financial Decision Making Processes of Low-Income Individuals* (Joint Ctr. for Hous. Stud., UCC08-2, 2008).

⁶³ According to a recent survey, only a small percentage of consumers seek professional guidance to determine the best mix of financial products for their individual needs. *Americans Are More Confident About Their Retirement Savings Now Versus Three Years Ago Pre-Trump*, *According to the Invest in You Savings Survey* (2019), <https://www.cnbc.com/2019/04/01/americans-are-more-confident-about-their-retirement-savings-now-versus-three-years-ago-pre-trump-according-to-the-invest-in-you-savings-survey.html>. In the vast majority of cases, an individual’s personal financial situation is the cumulative result of multiple, uncoordinated product use decisions and relationships rather than organized planning. Limits and impediments to consumer price discovery and “shopping” for financial services—especially among sub-prime consumers—have been summarized for the mortgage market by REN S. ESSENE & WILLIAM APGAR, UNDERSTANDING MORTGAGE MARKET BEHAVIOR: CREATING GOOD MORTGAGE OPTIONS FOR ALL AMERICANS 11-23 (2007); and documented in the direct auto loan market in BRONSON ARGYLE ET. AL., REAL EFFECTS OF SEARCH FRICTIONS IN CONSUMER CREDIT MARKETS (2017) (a paper presented at the FDIC Consumer Symposium in September 2017); and in the indirect auto lending market in Adam J. Levitin, *Fast and Usurious: Putting the Brakes on Auto Lending Abuses*, 108 GEO L.J. 1257 (2020). See also TRENTON MILNER & DANIELA ROSENSTREICH, A REVIEW OF CONSUMER DECISION-MAKING MODELS AND DEVELOPMENT OF A NEW MODEL FOR FINANCIAL SERVICES (2013).

⁶⁴ A growing distinction—in practice if not in regulatory structure—between the health care and consumer financial services concepts of disclosure and consent can be seen in the efforts by both traditional and fintech consumer financial services providers to reduce so-called “friction” in financial transactions, often at the expense of careful deliberation or the time and capacity to digest the information contained in disclosures that is relevant to the purchase decision. As a KPMG report puts it: “Today’s consumer expects and demands convenience, speed, automation and simplicity that were not possible a few years ago. Any unnecessary additional effort, incremental steps or inconvenience that leads the consumer to abandon their purchase journey is defined as friction.” *Eliminating Friction in the Financial Services Purchase Journey* (2018), <https://home.kpmg/in/en/home/insights/2018/09/consumer-eliminating-friction-financial-services.html>.

hundreds of sites which purport to analyze and rate products and providers, have given those consumers who are inclined to shop aggressively a new source of useful comparative information and customer feedback. However, even the best of these sites may accept payments from providers for placement on the site, which can affect providers' rankings or whether they appear on the comparison site at all.⁶⁵ And they, like all digital merchandizing channels, are designed to reduce the time, effort, and deliberation that stands between a consumer and a sale.

Standards of care in the health care field have found analogies in consumer finance, where some regulations contain detailed prescriptions of how certain financial products are delivered and certain practices are performed. But this more prescriptive regulation has largely been relegated to "services" where consumer choice does not exist because the provider is chosen by someone other than the consumer (e.g., consumer credit reporting, debt collections, or loan servicing), or in which product complexity clearly exceeds most consumers' knowledge or familiarity (e.g., mortgage products). For example, the Fair Credit Reporting Act defines the specific obligations of consumer reporting agencies, users of consumer reports, and data furnishers; and over the course of numerous amendments, it has come to contain highly detailed instructions as to how these roles are to be performed.⁶⁶ Similarly, the Truth in Lending Act and Regulation Z impose strict "ability to pay" requirements on mortgage originators and limit prepayment penalties.⁶⁷

D. Presence or absence of counterweight aligned with positive consumer outcomes

In the health care field, the interests of state governments (in the case of Medicaid beneficiaries), the federal government (in the case of Medicare beneficiaries), private insurers and employers are broadly aligned with positive consumer outcomes, particularly when they lead to lower current and future health care costs for patients. Backed by control of funding, which is fully embedded in the incentive structures of the health care market, these third parties provide a meaningful counterweight to any tendency of doctors, laboratories, hospitals, specialists, or service providers (e.g., imaging or

⁶⁵ As the Financial Brand has noted: "Practices vary among the sites, but generally somewhere on each there is an explanation of the way listed providers may be paying for exposure. Sometimes there are fees for more prominent placement, sometimes there is compensation for accounts opened as a result of visiting the site, sometimes compensation is made for clicks, and sometimes sponsored listings are labeled as such. Some pages displayed may consist of sponsored brands only, and are marked as an advertisement, while other sites cover that situation in some other way. There may also be straightforward digital display ads, clearly paid for." Steve Cocheo, *How Comparison Sites are Radically Altering Bank Product Marketing*, THE FINANCIAL BRAND (Jan. 23, 2020), <https://thefinancialbrand.com/92406/google-nerdwallet-credit-karma-comparison-website/>.

⁶⁶ Fair Credit Reporting Act, 15 U.S.C. § 1681 et seq.

⁶⁷ Truth in Lending Act, 15 U.S.C. §§ 1601-1667f; 12 C.F.R. § 1026.

dialysis) to optimize profit at the expense of individual outcomes.⁶⁸

There are no comparable third party “counterweights” in the consumer financial services marketplace, where consumer outcomes are subservient to financial considerations⁶⁹ for all providers and pro-consumer advocacy occurs outside the marketplace (i.e., in the political sphere or in courtrooms).⁷⁰ In the absence of countervailing forces operating in the market, each individual is deemed to be his or her own expert and advocate when dealing with financial services providers and products, despite enormous differences in knowledge and experience that favor providers in any specific transaction.⁷¹

E. Relative Maturity of Digital Data Practices

⁶⁸ In the case of private insurers, there is some conflict between optimal patient outcomes and insurer profitability. However, the existence of a corporate sponsor protecting the interests of its own employees serves an analogous function. In the United States health care system, the economic conflict plays out around cost and pricing power, where providers often over-treat and over-bill, while insurers exert downward pressure on provider prices through negotiation and risk-offloading (and collections offloading) onto consumers, and providers consolidate to strengthen local market power (and gain some efficiencies).

⁶⁹ A strong argument can be made that encouraging positive consumer financial outcomes would increase the lifetime value of customers for financial service providers. However, the authors are not aware of any large financial services provider who has organized its business around this concept.

⁷⁰ Some non-profits seek to raise public awareness and influence regulatory developments around provider practices. See, e.g., *About Us*, THE CENTER FOR RESPONSIBLE LENDING, <https://www.responsiblelending.org/about-us> (last visited Oct. 2, 2020). The Department of Defense, in collaboration with other agencies, has taken an active role in protecting the interests of service members as they pertain to financial services. See Dep’t of Defense et al., *Empowering Military Consumers-All Year Long*, CONSUMER FIN. PROTECTION BUREAU BLOG (July 31, 2020), <https://www.consumerfinance.gov/about-us/blog/empowering-military-consumers-all-year-long/>. Similarly, the private “consumer bar,” law school-sponsored consumer law clinics, public and non-profit legal aid providers, and specialized non-profit counsel such as the National Consumer Law Center provide litigation support for consumers who make claims regarding financial product and services. See, e.g., *About Us*, NATIONAL CONSUMER LAW CENTER, <https://www.nclc.org/about-us/our-story.html> (last visited Oct. 2, 2020).

⁷¹ Both employers and the welfare state do, however, have interests in the financial health of consumers that could lead them to become more vigorous counterweights to provider interests in the future. For example, employees have expressed that “financial wellness benefits” offered by their employer can reduce employee stress and increase productivity and employee retention. See Financial Health Network, *Better for Employees, Better for Business: The Case for Employers to Invest in Employee Financial Health*, FIN. HEALTH NETWORK, <https://finhealthnetwork.org/research/the-case-for-employers-to-invest-in-employee-financial-health/> (last visited Oct. 2, 2020); see also Baker, *supra* note 50. Government providers of “safety net” benefits also have a self-evident interest in educating individuals in financial health, as it helps prevent those individuals from becoming “customers” of government benefits in the future.

One critical area where financial services is now substantially ahead of the game is in the digitization of customer data. Banks were early leaders in computerized accounting and account transaction record keeping. While that advantage became something of a disadvantage as the difficulty of updating legacy information technology became apparent in a fast-changing technological environment, recent decades have still witnessed an enormous expansion in both the quantity and quality of consumer financial data.⁷² The initial drivers of this growth were the adoption of credit scoring—which relies on digital data—as the principal method of underwriting consumer loans⁷³ and the related growth of digital data standards that permitted the securitization of all types of consumer loans including credit cards, mortgages, auto loans, home equity loans, unsecured personal loans, and small business loans.⁷⁴ Over time, the many benefits of using digitally stored and manipulatable data for things like marketing, customer value analysis, compliance and financial statement preparation have led to a well-developed set of data practices.⁷⁵

Large financial services companies are breaking down internal data silos that have made broader consumer analysis difficult and are building internal capabilities that allow them to view any individual’s entire relationship with the provider.⁷⁶ Even more important is the emergence of

⁷² Todd H. Baker & Corey Stone, *It’s Time to Tie Bank Profits to Customers’ Financial Health*, HARVARD BUS. REV. (Aug 21, 2020), <https://hbr.org/2020/08/its-time-to-tie-bank-profits-to-customers-financial-health>. The size of the asset-backed securities market has grown to \$1.7 trillion in 2019 since its emergence in the mid-1980s, along with \$10.3 trillion of mortgage-backed securities outstanding over the same period. Securitization Committee, *US ABS Issuance and Outstanding Report and Statistics*, SIFMA RESEARCH (Sept. 9, 2020).

⁷³ LYN THOMAS, JONATHAN CROOK & DAVID EDELMAN, CREDIT SCORING AND ITS APPLICATIONS 5, 9 (2d ed. 2018). One of the authors of this article served as the underwriters’ counsel in the 1986 initial public offering of Fair, Isaac & Company (FICO), the originator of credit scoring, and as the issuer’s counsel in the first public credit card securitization by Bank of America in 1987.

⁷⁴ See Securitization Committee *supra*, note 72.

⁷⁵ It has taken some time for the consumer financial services industry to digitize and much remains to be done. Even when a single provider is the source of multiple products, the data and customer interactions related to these product relationships sometimes resided in separate information silos using incompatible legacy technology and are managed through different “channels” or “interfaces.” It has traditionally been difficult, if not impossible, for a consumer to transfer financial records from one provider to another in a form that the second provider can easily use. Section 1033 of the Dodd-Frank Act was an attempt to change this dynamic, but, despite advances in digital data capabilities, it has not been successful in doing so largely for competitive reasons. See Agnes Ann Pepe, *The Evolution of Technology for the Accounting Profession*, CPA PRAC. ADVISOR (Apr. 19, 2011), <https://www.cpapracticeadvisor.com/home/article/10263076/the-evolution-of-technology-for-the-accounting-profession>; Dodd-Frank Wall Street Reform and Consumer Protection Act § 1033, 12 U.S.C. § 5533.

⁷⁶ *Finally: Customer Analytics for Banks*, (2011), <https://www2.deloitte.com/content/dam/Deloitte/us/Documents/process-and-operations/us-cons-customer-analytics-102711.pdf>; Chiara Brocchi et al., *Designing a Data Transformation that Delivers Value Right from the Start*, MCKINSEY & CO., (October 18, 2018), <https://www.mckinsey.com/industries/financial-services/our-insights/designing-a-data-transformation-that-delivers-value-right-from-the-start>.

third party “data aggregators” such as Plaid, Finicity, Envestnet/Yodlee, and MX that enable nonbank “fintech” companies to deliver value-added financial services.⁷⁷ After securing a consumer’s permission to access transactional data stored with her existing financial providers, a fintech firm or, significantly, another bank can use the services of a data aggregator to gain a much fuller picture of that consumer’s financial situation.⁷⁸ Data aggregators do this by collecting and organizing transactional and other data from disparate sources in common formats that allow for effective analysis and use in delivering products and services.⁷⁹ These capabilities are critically important to the three-stage proposal described below.

F. Concepts of well-being

In the health care market, both providers and the institutional forces seeking to influence patient outcomes largely share a common, if implicit, understanding of “health” or “wellness” that is the basis for measuring outcomes.⁸⁰ At its simplest, it constitutes (outside of mortality where the answer is definitive) the absence of illness or pain or, at least, the absence or end of a patient’s need for further treatment or the least invasive or costly treatment in the case of chronic conditions.⁸¹ And since poor outcomes from medical treatment and sometimes from lack of preventative care often necessitate further treatment and expense, payors’ and patient’s interests are largely congruent when it comes to how each group defines well-being.⁸²

⁷⁷ Adam D. Maarec, *Treasury Report Promotes Data Aggregators in the Consumer Financial Services Ecosystem*, BALLARD SPAHR LLP (Aug. 21, 2018), <https://www.consumerfinancemonitor.com/2018/08/21/treasury-report-promotes-data-aggregators-in-the-consumer-financial-services-ecosystem/>; *A List of Financial Data Aggregators in the United States*, MX, (Mar. 5, 2018), <https://www.mx.com/moneysummit/a-list-of-financial-data-aggregators-in-the-united-states>.

⁷⁸ Sam Adriance, *The Future of Interconnected Banking is Now, and It’s Brought to You by APIs*, AM. BAR ASS’N (Dec. 5, 2019), https://www.americanbar.org/groups/business_law/publications/committee_newsletters/consumer/2019/201911/banking/.

⁷⁹ *Id.*; see also U.S. DEP’T OF THE TREASURY, A FINANCIAL SYSTEM THAT CREATES ECONOMIC OPPORTUNITIES 23 (2018).

⁸⁰ *36-Item Short Form Survey (SF-36)*, *supra* note 25.

⁸¹ *Id.*

⁸² The authors acknowledge that there are no universally used or agreed-upon measures of physical or medical well-being. Definitions of physical health and measures of outcomes resulting from medical treatments have generally involved amalgams of relevant information (from vital signs, blood tests, diagnostic images) collected from patients at the time of diagnosis, over the course of treatments, and in follow-up visits to providers. Broader definitions of physical well-being, such as “Health-Related Quality of Life,” involve combinations of subjective measures and the presence of physical or mental capabilities or functions (observed or self-reported). See *Health-Related Quality of Life*, CENTERS FOR DISEASE CONTROL AND PREVENTION (Oct. 31, 2018), <https://www.cdc.gov/hrqol/methods.htm>. The outcome measures described in Section I *infra* as being collected, reported, and disclosed by health care providers appear generally to be of

In consumer finance, in contrast, providers and consumers have just begun to converge around a common definition as to what constitutes a “good” outcome. There is general consensus that loan default or foreclosure (and the reduced access to credit/increased borrowing costs, negative consequences to employment and access to rental housing, and loss of home equity or other collateral wealth that may result) constitute negative outcomes. But the broader aspects of how a consumer’s financial state may affect their overall welfare and how that state may be affected by their use of financial services have received less attention. This has to do partly with market fragmentation and partly with providers’ and regulators’ assumption of competition and reliance on “informed choice” as the basis for regulation in markets for specific financial products. Because most financial services providers only serve a portion of their customers’ financial services needs, the providers generally have limited insight into their customers’ broader economic circumstances or how their products interact with other products and affect customers’ long-term interests.

Likewise, the presumption that consumers are the best judges of which financial products to use, which providers to choose, and when to use them, means that a consumer’s overall financial circumstances are viewed by providers and regulators as simply reflecting the sum of multiple, discrete product and use decisions taken over time. Public policy debate around what could be considered positive or negative outcomes resulting from use of financial services has thus focused almost exclusively on whether or not demonstrable harms result from the use of particular products or practices and, more narrowly, over whether providers have misinformed consumers (e.g., through deception or fraud) or inhibited consumers’ freedom of choice (e.g., through unfair or abusive practices).⁸³

In the next section we discuss how emerging definitions of “financial health” or “financial well-being” have begun to change this situation, making it possible to measure a consumer’s overall financial condition and to correlate changes in that condition with the consumer’s decisions regarding

the first type, with the exception of post-treatment patient surveys. For descriptions of more subjective or broader measures of physical well-being (and that are more analogous to the measures of consumer financial health or well-being discussed herein) see *36-Item Short Form Survey*, *supra* note 225.

⁸³ This limited definition of unfairness has been most fully expressed by former Director of the FTC’s Bureau of Consumer Protection, J. Howard Beales. The FTC Act accorded that agency the ability to prohibit through its enforcement powers Unfair or Deceptive Acts or Practices (UDAAP). Beales outlines “three elements of modern unfairness [theory]: the injury must be (1) substantial, (2) without offsetting benefits, and (3) one that consumers cannot reasonably avoid.” See J. Howard Beales, *The FTC’s Use of Unfairness Authority: Its Rise, Fall, and Resurrection*, FEDERAL TRADE COMMISSION (May 30, 2003), <https://www.ftc.gov/public-statements/2003/05/ftcs-use-unfairness-authority-its-rise-fall-and-resurrection>. Similar language constraining the definition of unfairness was enshrined in Dodd-Frank. Dodd-Frank Wall Street Reform and Consumer Protection Act § 1033, 12 U.S.C. § 5536. The Dodd-Frank Act accorded the CFPB similar responsibility with respect to consumer financial services, and both added rulemaking powers and expanded their proscriptive breadth to include “abusive” acts and practices (i.e., UDAAP). CONSUMER FINANCIAL PROTECTION BUREAU, CFPB CONSUMER LAWS AND REGULATIONS 1 (2012).

their use of specific financial products and service providers. Evolving methods for measuring outcomes may, in turn, bring new insights into how to improve those outcomes and introduce new dimensions of competition among providers.

III. MEASURING FINANCIAL OUTCOMES

Stakeholder consensus around what could be considered positive or negative outcomes resulting from use of financial services—let alone the notion that such outcomes could be optimized and consumer “financial well-being” improved—has until now been missing from policy discussions about consumer protection.⁸⁴ As noted above, policy debates have focused almost exclusively on whether harms result from the use of particular products and more narrowly over whether providers have played a role in inhibiting consumers’ freedom of choice or caused them to be poorly informed.⁸⁵

The question of whether broader outcomes should be a consideration of consumer financial protection policy (beyond instances when substantial harm can be directly attributed to a discrete event) or even of whether an outcome can be judged as good or bad for the consumer has only recently become a matter for debate.⁸⁶ This is not surprising, given that most consumers’ financial circumstances at a given point in time reflect the cumulative effects of decisions regarding a variety of different financial products obtained from multiple providers. It would seem difficult to attribute a consumer’s overall financial condition to any one product or decision. We briefly review existing measures used to assess policy impacts and how they fall short of linking financial protection policy to a consumer’s overall financial circumstances. We then suggest that an emerging consensus around what constitutes “financial health” or “financial well-being” provides a robust framework for the use of big data analytics to identify positive and negative vectors that affect financial health outcomes.

⁸⁴ We consider our proposal to realign consumer financial regulation around “outcomes” data to be distinct from the valuable proposals made by Lauren Willis to improve regulatory outcomes through the measurement of, among other things, the “performance” of consumer disclosures mandated by current law through comprehension testing standards. See Willis, *supra*, note 8, at 1314-15.

⁸⁵ Beales, *supra* note 83.

⁸⁶ See Willis, *supra* note 8, at 1311; Mary Griffin, *Taking Consumer Protection to the Next Level: The Treating Customers Fairly Approach*, CTR. FOR FIN. INCLUSION (May 13, 2019), <https://www.centerforfinancialinclusion.org/taking-consumer-protection-to-the-next-level-the-treating-customers-fairly-approach>; Gerhard Coetzee, *It’s Time to Change the Equation on Consumer Protection*, CONSULTATIVE GRP. TO ASSIST THE POOR (June 11, 2019), <https://www.cgap.org/blog/its-time-change-equation-consumer-protection>.

A. Existing Measures

Impact measures in consumer financial regulation have historically been narrow metrics tailored to specific policy interventions like (1) financial education efforts designed to improve consumer understanding of particular products and of habits such as saving, budgeting, and building credit scores; (2) disclosure-based regulations designed to inform consumer decisions; (3) efforts to foster access to certain deposit and credit products in the name of “financial inclusion;” and (4) more prescriptive or proscriptive regulations meant to avoid consumer harm. Broader analysis of consumer well-being has typically not been included in these measurements.⁸⁷

Financial Education: Even though improving “financial health” has often been an unstated objective of consumer finance policy, a preponderance of public and private resources devoted to improving financial health appear to have focused on education rather than outcomes.⁸⁸ This is not surprising given the bias towards disclosure and consumer choice embedded in the current financial regulatory system. And where efforts have been made to assess the quality and impacts of educational programs designed to improve ‘financial literacy,’ these have relied narrowly on measuring information retention among recipients, or short-term changes in one or two dimensions of consumer behavior, such as savings accumulation, success in paying down accumulated debts, or improvements in credit scores. None have yet demonstrated conclusively that education meaningfully changes consumer decision-making—or improves outcomes.⁸⁹

⁸⁷ It is worth noting that considerable academic effort has been expended in recent years in examining distinct concepts of cost-benefit analysis (CBA) in financial services regulation, largely as a result of the extension of CBA concepts to financial services regulation following the adoption of the Dodd-Frank Act and the D.C. Circuit’s *Business Roundtable* decision. *Bus. Roundtable v. SEC*, 647 F.3d 1144, 1148 (D.C. Cir. 2011) (holding that the SEC acted arbitrarily and capriciously in adopting a rule governing shareholder proxy access rights because it failed to adequately assess the economic effects of the rule). These issues are outside the scope of this article.

⁸⁸ A 2013 CFPB study found that approximately \$670 million is spent annually on providing financial education by federal, state, and local governments, financial institutions, nonprofit organizations, charitable foundations, and others. *Navigating the Market: A Comparison of Spending on Financial Education and Financial Marketing*, CONSUMER FIN. PROT. BUREAU, <https://www.consumerfinance.gov/about-us/newsroom/the-cfpb-finds-financial-education-programs-are-significantly-outspent-by-financial-marketing/> (last visited May 18, 2020).

⁸⁹ Teaching financial literacy in school has repeatedly been shown to be ineffective. See generally Ben-Shahar & Schneider, *supra* note 57; See also Lauren E. Willis, *Against Financial Literacy Education*, 94 IOWA L. REV. 197, 197 (2008); Lauren E. Willis, *Evidence and Ideology in Assessing the Effectiveness of Financial Literacy Education*, 46 SAN DIEGO L. REV. 415, 419 (2009) (reviewing methods used to assess impacts of financial literacy education—and their shortcomings). But see, Tim Kaiser & Lukas Menkhoff, *Financial Education in Schools: A Meta-Analysis of Experimental Studies* 1 (Econ. of Educ., Working Paper No. 7395, 2018).

Disclosure Testing: Most efforts to assess the effectiveness of disclosure-based regulations have focused on consumers' attention (i.e., did they read the disclosure?), and comprehension (i.e., did they understand what the disclosure conveyed about product costs and/or the consequences and risks associated with product use?). Disclosure design and testing has tended to avoid measuring impacts of disclosures on decisions or the downstream impacts of those decisions.⁹⁰ With the exception of disclosures designed to convey prices and permit price comparisons, regulators tasked with designing consumer financial disclosures have even assiduously avoided using terms or phrasing that could reflect any presumption of whether one decision is better than another.⁹¹

Financial Inclusion: In a separate vein, private sector and public policy efforts conducted to foster "financial inclusion" have attributed benefits to access to certain financial products, such as checking and savings accounts or certain forms of credit. But efforts to measure impacts from these efforts have sometimes been tautological: measuring changes in rates of access to or use of the products themselves rather than showing that use of the products improves consumer finances. These analyses have often modeled impacts by attributing benefits to cost savings offered by mainstream or digital products over more expensive "alternative" money services or credit products. The difficulty of measuring broader impacts of financial inclusion efforts have been acknowledged by those in the field.⁹²

Harm Resulting from Violations of Law: Similar challenges have arisen in recognizing and addressing the nature of the "consumer harm" resulting from financial products or practices under consumer financial protection law.

⁹⁰ Howell E. Jackson & Paul Rothstein, *The Analysis of Benefits in Consumer Protection Regulations*, 9 HARV. BUS. L. REV. 197, 301 (2019) ("Given the prominence of disclosure strategies in consumer protection efforts at both the CFPB and other agencies charged with consumer protection responsibilities, we believe that disclosure is a logical target for additional research and analysis Benefit analysis for disclosure regulations is often ambiguous as to whether the goal of the intervention is simply to increase consumer comprehension or rather to change behavior by eliminating the mistaken or otherwise inappropriate choices. The latter course is, no doubt, more problematic because it requires regulatory officials to have a normative framework to define which choices are correct for which consumers. But improved comprehension without accompanying changes in behavior does not necessarily generate personal or social benefits.").

⁹¹ Gillis, *supra* note 57, at 44.

⁹² See e.g., Daryl Collins & Amolo Ng'weno, *Do Financial Inclusion Efforts Really Have an Impact on Poverty?*, STAN. SOC. INNOVATION REV. (Jan. 29, 2018), https://ssir.org/articles/entry/do_financial_inclusion_efforts_impact_poverty#; see also CITIES FOR FINANCIAL EMPOWERMENT FUND, AN EVALUATION OF FINANCIAL EMPOWERMENT CENTERS 103 (2017).

While a few statutes such as the Truth in Lending Act provide for statutory damages⁹³ as a deterrent to law-breaking, monetary claims and recovery amounts in enforcement and private actions are typically tied to recompense for identifiable losses (e.g., from excess interest paid or direct losses associated with otherwise avoidable delinquency, default, foreclosure and repossession and loss of collateral) attributed to a specific provider practice. And while the penalties imposed on providers can be substantial,⁹⁴ the longer-term, downstream effects on the consumer are not considered. The lack of consideration of consumers' overall well-being is particularly evident in the seemingly broad authorities granted the FTC⁹⁵ and CFPB⁹⁶ to prohibit unfair practices. The requirement (adopted by internal policy at the FTC and by statute at the CFPB) that the agencies establish a clear causal link between an act or practice and "substantial injury which is not reasonably avoidable by consumers" sets a high empirical bar that can only be cleared in the most egregious (and narrow) cases, given the absence heretofore of broad data sets that can link product features and usage behavior to long term outcomes.⁹⁷ Moreover, the unavailability requirement enshrines particular moments of choice regarding consumers' purchase or usage of a product, rather than broader patterns of consumer behavior or outcomes resulting from product use, as the primary unit of analysis in determining cause of harm.⁹⁸

B. *Problems with Existing Measures*

We believe that the financial realm has been remarkably devoid of effective ways to measure the things that should matter most, such as the welfare impacts of particular products and practices and the impact of interventions designed to alter those impacts or influence consumer decisions. The reasons include inadequate data, relatively short time frames for analysis and the absence of standards applicable across studies and populations. Attempts to measure the impact of a particular financial product on a consumer have not been designed to measure how changes in one particular parameter (e.g., the cost of a loan) can have secondary or "knock-on" effects on other aspects of an individual's or a household's financial condition over time (e.g., reduced ability to accumulate savings for emergencies or retirement) let alone more generalized measures of well-being. Nor do they account for how *a priori* differences in the financial circumstances of individuals or households can influence how programs, products, or practices affect outcomes.

⁹³ 15 U.S.C. § 1640 (a)(2)(A).

⁹⁴ See CAROLYN CARTER, CONSUMER PROTECTION IN THE STATES: A 50-STATE EVALUATION OF UNFAIR AND DECEPTIVE PRACTICES LAWS 42 (2018). But they are generally not under federal consumer financial protection law. See 15 U.S.C. § 57b.

⁹⁵ See Beales, *supra* note 83.

⁹⁶ See 12 U.S.C. § 5531(c)(1).

⁹⁷ See Beales, *supra* note 83.

⁹⁸ Dodd Frank does permit the CFPB to consider "established" public policy objectives when determining whether an act or practice is unfair but limits such considerations from serving as "a primary basis for such determination." 12 U.S.C. § 5531(c)(2).

But policymakers' historical inability to attribute current financial circumstances to past product usage is changing for two reasons. First, new definitions and measures of consumer financial wellness are finding common usage and suggest an emerging consensus about what financially positive outcomes mean. Second, the availability of massive data-sets that can capture consumers' financial behaviors, decisions, and behaviors across multiple products and time periods—along with the statistical and data science methodologies and computing power needed to analyze them—makes measuring and attributing changes in financial wellness to past consumer experiences not only possible but practical.

A. Defining and Measuring Financial Health or Well-Being

Several entities have recently sought to construct broader measures of “financial well-being” or “financial health” that explicitly or implicitly reference concepts of physical or medical health. The purposes for which these measures are being developed, and the specific metrics used, vary. But they share a common objective of characterizing and quantifying how the financial and monetary circumstances of an individual or household stack up against normative definitions of financial well-being. At present, these new measures of financial well-being rely on self-reported data collected through consumer surveys. If combined with the power of “big data” analytics, we believe that these new measures could enable assessments of how overall financial health outcomes are affected by specific products, consumer behaviors, and consumer decisions regarding their use. They should further permit assessment of how differences in product features and provider practices affect these outcomes. Finally, data-driven financial health analyses will begin to provide policymakers with tools to test and assess how different provider or market-wide interventions—regulatory or voluntary—may influence overall well-being.

The two best known efforts to define and measure financial health were launched during the last decade by the Financial Health Network⁹⁹ and the U.S. Consumer Financial Protection Bureau (CFPB). The survey tools and scoring methods developed by both entities are in the public domain. Each measurement scheme is being tested in multiple settings. The Financial Health Network has mobilized a cadre of “Financial Health Leaders” — financial institutions and employers that have committed to measuring their

⁹⁹ The Financial Health Network is a non-profit research and development organization focused on the measurement and improvement of consumer financial health. See *Financial Health Measurement*, FIN. HEALTH NETWORK, <https://finhealthnetwork.org/research/financial-health-measurement/> (last visited Oct. 12, 2020). One of the authors is currently Entrepreneur in Residence of the Financial Health Network and has in the past been affiliated with the organization as a Fellow and as an employee of a company in which the organization was an investor.

customers' or employees' financial health using variants of the Financial Health Network's Financial Health Score.¹⁰⁰ Separately, the CFPB has made its financial wellness scoring methodology available to academics, who have begun to deploy it to assess the scores' stability over time (e.g., does a household's financial wellness remain relatively constant from month to month) and to correlate changes in financial health with households' experience of particular expense shocks (e.g., unexpected medical expenses or loss of employment) and income shocks (e.g., loss of employment or a raise in pay).¹⁰¹

Both the Financial Health Network's¹⁰² and the CFPB's¹⁰³ efforts to define and measure a normative state of financial well-being have identified clusters of personal circumstances, behaviors, and attitudes that can be expected to correlate with a household's general ability to maintain financial stability in the face of shocks (i.e., without major adjustments in consumption and without incurring knock-on costs such as loss of assets or income or impeding the successful and safe care of household members). These clusters also correlate with a household's ability to take advantage of opportunities for further financial gain, education, employment or enjoyment.¹⁰⁴

Definitions and Methodologies: The Financial Health Network has defined financial health as “when an individual's daily financial systems help them build resilience and pursue opportunities over time. For individuals and households, financial health can lead to greater physical health, job and housing stability, educational success, and reduced overall stress.”¹⁰⁵ In its annual U.S. Financial Health Pulse survey of a nationally representative sample of consumers, the Financial Health Network poses a series of questions concerning respondents' spending, saving, borrowing, and planning activity or status.¹⁰⁶ Responses are used to compile a financial health score, with high scores signifying the consumer is financially healthy and lower scores suggesting they are “coping” or “vulnerable.”¹⁰⁷ In brief, a consumer receives a high financial health score when their responses indicate

¹⁰⁰ See *FinHealth Score*® *Methodology*, FIN. HEALTH NETWORK, <https://finhealthnetwork.org/score/score-methodology/> (Sept. 22, 2020).

¹⁰¹ See *Measuring Financial Well-Being: A Guide to Using the CFPB Financial Well-Being Scale*, CONSUMER FIN. PROT. BUREAU (Dec. 2015), https://files.consumerfinance.gov/f/201512_cfpb_financial-well-being-user-guide-scale.pdf.

¹⁰² See FIN. HEALTH NETWORK, *supra* note 100.

¹⁰³ See CONSUMER FIN. PROT. BUREAU, *supra* note 101.

¹⁰⁴ See *id.* at 7, 9.

¹⁰⁵ *About*, FIN. HEALTH NETWORK, <https://finhealthnetwork.org/about/> (last visited Feb. 7, 2020).

¹⁰⁶ See Beth Brockland et al., *US Financial Health Pulse 2019 Trends Report*, FIN. HEALTH NETWORK 39-41, https://s3.amazonaws.com/cfsi-innovation-files-2018/wp-content/uploads/2019/12/16161507/2019-Pulse-Report-FINAL_1205.pdf (last visited May 17, 2020).

¹⁰⁷ *Id.*

that they:

1. Spend less than they earn
2. Pay their bills on time and in full
3. Have sufficient liquid savings
4. Have sufficient long-term savings
5. Have a sustainable debt load
6. Have a prime credit score
7. Have appropriate insurance¹⁰⁸
8. Plan ahead for expenses¹⁰⁹

Respondents to the 2018 survey had a wide range of scores, with only 28% answering affirmatively to enough of these questions to score in the “Financially Healthy” range under the Financial Health Network’s scoring criteria.¹¹⁰ Of the remainder, 55% scored as “Financially Coping” and 17% as “Financially Vulnerable”.¹¹¹ A repeat survey of a subset of the same consumers a year later (i.e., in 2019, prior to the COVID-19 pandemic) found the average scores of respondents changed little, indicating a measure of stability amidst similar macroeconomic conditions at the population level.¹¹² However, roughly one-fifth of individuals’ scores increased or decreased significantly (i.e., they had moved from one of the three tiers of financial health—healthy, coping, or vulnerable) as a result of experiencing financial shocks (positive or negative) since the first administration.¹¹³ The survey also collected data on household characteristics, home ownership status, geography, race, age, and gender, as well as on conditions of employment such as continuity of employer, predictability of hours and wages, and overall earnings.¹¹⁴

The Financial Health Network published its methodology for use by financial institutions that voluntarily seek to measure the financial health of their customers.¹¹⁵ It reports that a number of institutions are using the Network’s survey instrument.¹¹⁶ Other financial institutions are combining

¹⁰⁸ *Id.* at 12.

¹⁰⁹ *Id.*

¹¹⁰ GARON, *supra* note 3, at 3.

¹¹¹ *Id.*

¹¹² *See* Brockland, *supra* note 106 at 29.

¹¹³ *See id.* at 29-30.

¹¹⁴ *See id.* at 20, 47, 50.

¹¹⁵ *See* FIN. HEALTH NETWORK, *supra* note 100.

¹¹⁶ The Financial Health Network reports that among institutions participating in its Financial Leaders program, 14 - roughly half of participants - use the Network’s data collection and scoring methodology. Other institutions use proprietary methods or customized versions of the Network’s methodology. Email from Thea Garon, (Sept. 22-23, 2020); Alejandra Ruales

survey techniques with use of transaction and balance information from consumers' deposit accounts to develop more automated and scalable methods for measuring financial health. And the Network itself is testing the use of checking account transaction history and other personal financial data volunteered by survey respondents in order to develop ways to measure financial health in more automatable ways.¹¹⁷

Separately, the CFPB has created its own Financial Well-Being Scale.¹¹⁸ This measurement effort has been led by the agency's Consumer Education and Engagement Division. An important objective of the scale is to serve as a measure of the impact and effectiveness of educational, coaching, or "empowerment" efforts intended to foster or enhance the "financial capability" of individuals.

The CFPB defines financial well-being as "a state of being wherein a person can fully meet current and ongoing financial obligations, can feel secure in their financial future, and is able to make choices that allow them to enjoy life."¹¹⁹ The agency identifies underlying elements of well-being that largely mirror the components of the Financial Health Network's Financial Health Score, including (as indicated by added italics below):

- Having control over one's finances in terms of being able to *pay bills on time, not having unmanageable debt*, and being able to make ends meet.
- *Having a financial "cushion" against unexpected expenses and emergencies. Having savings, health insurance, and good credit*, and being able to rely on friends and family for financial assistance were factors that increase consumers' capacity to absorb a financial shock.
- *Having financial goals*—such as paying off one's student loans within a certain number of years or saving a particular amount towards one's retirement—and being on track to meet those financial goals also made people feel like they were in good shape financially.
- Being able to make choices that allow one to enjoy life—such as taking a vacation, enjoying a meal out now and then, going back to

& Farah Minjiyani: *Beyond Measurement: Insights from the 2019 Financial Health Leaders Program*, FIN. HEALTH NETWORK (June 2020), https://s3.amazonaws.com/cfsi-innovation-files-2018/wp-content/uploads/2020/06/19030707/2020-Financial-Health-Leaders-Report_R4.pdf.

¹¹⁷ Rob Levy et al., *Advances in Financial Health Measurement: Insights from the 2018 Financial Health Leaders Program*, FIN. HEALTH NETWORK (Apr. 2019), https://s3.amazonaws.com/cfsi-innovation-files-2018/wp-content/uploads/2019/04/23212203/CFSI_MetLife-LeadersReport-Final.pdf.

¹¹⁸ CONSUMER FIN. PROT. BUREAU, *supra* note 101, at 4.

¹¹⁹ *Financial Well-Being Resources*, CONSUMER FIN. PROT. BUREAU, <https://www.consumerfinance.gov/practitioner-resources/financial-well-being-resources/> (last visited Oct. 24, 2020).

school to pursue an advanced degree, or working less to spend more time with family—was also deemed an essential ingredient in financial well-being.¹²⁰

Unlike the Financial Health Network, the CFPB didn't consider these underlying elements to be directly observable in either third party data or in consumer self-reports. Instead it has constructed a 10-question survey that elicits consumers' responses about more subjective aspects of their financial lives.¹²¹

Despite differences in methods, the Financial Health Network and CFPB scores exhibit similar distributions across representative national samples of the U.S. population and similar longitudinal stability. And the two correlated highly with each other when their underlying survey instruments were administered among the same respondent groups.¹²²

The Financial Health Network and the CFPB efforts to measure financial well-being both draw from and stimulate similar financial outcome measurement efforts in both developed and developing countries. These include efforts to measure the long-run impacts of both financial literacy and financial inclusion efforts, as well as to inform consumer finance policy more broadly. A recent report from Impact2Impact, a South African research organization, summarizes these broader development efforts and commonalities and differences in their definitions of financial health and well-being and in the scoring methodologies.¹²³

C. Automating, Scaling, and Normalizing Financial Health Measures

¹²⁰ See CONSUMER FIN. PROT. BUREAU, *supra* note 101.

¹²¹ In its reliance on subjective responses to measure financial health, the CFPB's questionnaire resembles the Rand Corporation's 36-Item "Short Form Survey" (or "SF-36") for measuring patient outcomes in a wide range of medical treatment contexts. *36-Item Short Form Survey*, *supra* note 25.

¹²² GARON, *supra* note 3. For correlations between responses to specific questions in the CFPB's Financial Well-Being Scale instrument and the Financial Health Network's Financial Health Score, see Appendix B, pp. 56-58. Separately, both the Financial Health Network and CFPB survey instruments have been tested in multi-year, longitudinal administrations to the same populations. While the two differ notably in the specific questions each asks and in how their numerical scores have been constructed, both showed considerable overall stability year-on-year-i.e., the average financial health scores of the surveyed populations didn't change dramatically year-on-year (although some families exhibited significant increases or decreases in their financial health). Both scores showed responses to intervening shocks (positive or negative) reported by respondents during intervening period. For example, respondents who reported loss of employment or health problems that resulted in lost work or major uncovered medical expenses during Year 2 saw drops in their scores at the end of Year 2 as compared to Year 1.

¹²³ Elizabeth Rhyne, *Measuring Financial Health: What Policymakers Need to Know*, IMPACT2IMPACT (Apr. 2020), <https://cenfri.org/wp-content/uploads/Measuring-Financial-Health.pdf>.

The evolution of the measures should be greatly aided by recent developments in the U.S. consumer finance data ecosystem. In particular, data aggregators are increasingly able to access, with consumers' permission, balance information and transaction histories from consumers' various financial accounts at multiple providers.¹²⁴ The appearance of these new data intermediaries—operating in a different manner but with similar effect to the increasing interoperability of electronic health records in the medical realm—promise to form the empirical basis for depicting and understanding an individual or household's financial circumstances and behavior in their totality. And, while each of the early measures of financial health discussed above rely in part on consumers' responses to direct surveys, future metrics may rely on data that can be collected instantaneously and automatically.

As these measurement tools are used more widely and longitudinally (i.e., with repeated observation of the same variables over time), researchers will increasingly be able to identify extrinsic and macro-economic events (e.g., changes in employment or real wages, changes in tax policies, or in selected living costs) that affect financial well-being across populations. Wider use will also enhance understanding of how particular demographic and economic characteristics (e.g., geography, race, ethnicity, age, income, gender, household and marital status, earnings, wealth, hours and conditions of employment)¹²⁵ correlate with financial well-being. This will help financial services providers establish meaningful baselines for measuring the financial health of their own customers, making it possible—as with measures of a hospital's patient outcomes that are “risk-adjusted” to reflect the characteristics of its local population—to isolate the impacts of an institution's products and practices from the particular demographic and economic characteristics of the customers they serve.

With measurement of the financial health of the same consumers over time, detailed data on the products consumers use and how they use them, and methods to isolate the effects of prior circumstances and geographic and other population effects, it will increasingly be possible to assess how and how much particular products, consumer decisions and behaviors, and specific provider practices affect a consumer's financial health over time. It should also be possible to identify the pathways by which these products, practices and behaviors affect overall financial health by identifying relationships to particular intermediate measures (e.g., spending in relation to income, savings accumulation or measures of debt load relative to income and assets) that are components of an overall financial health or well-being score. Understanding these correlations could help explain differences in overall financial health observed between product users and

¹²⁴ *How Consumers and Companies Benefit from Data Aggregation*, PAYMENTS JOURNAL (Feb. 11, 2020), <https://www.paymentsjournal.com/how-consumers-and-companies-benefit-from-data-aggregation/>.

¹²⁵ For example, the Financial Health Network's 2018 US Financial Health Pulse Survey found that predictability of one's hours of employment has an impact on overall financial health that is commensurate with that of earnings levels. See GARON, *supra* note 3, at 43-44.

non-users, consumers who exhibit a particular behavior and consumers who do not, and consumers who are subjected to a provider practice and those not so subjected.

IV. WHAT USE OF OUTCOMES MEASURES IN CONSUMER PROTECTION REGULATION MIGHT LOOK LIKE

Despite many differences between the health care and consumer finance markets—in structure, competitiveness, concentration, public and professional regulatory regimes, and institutional incentives—we believe it is possible to envision a future in which consumers’ outcomes matter to financial market participants in ways similar to how they matter today to hospitals and physicians. In this section we depict what such a future might look like.

While the effective use of outcomes data in consumer finance lags far behind health care, the emerging infrastructure and protocols for collecting and aggregating data on a consumer’s financial experiences and behaviors across different financial products and providers holds enormous potential. By analyzing aggregated data, it is possible to compile a picture of a consumer’s personal and household balance sheets and cash flows and measure the trajectory of her overall financial health over time. The growing ability to do this on a mass scale lays the groundwork for using “big data” analysis to correlate both product-specific, practice-specific and generalized outcomes (i.e., changes in overall financial health) with usage of particular products and consumer behaviors, as well as to compare outcomes across providers of similar products.

The insights that we can derive from outcomes-based data are as yet relatively primitive, but under our proposal¹²⁶ that should change as more data gradually become available to regulators, academics, consumer advocates, recommendation engines, fintechs and financial institutions themselves. The data revolution in consumer finance should, as it has in other areas, create new ways to empower consumers and new opportunities to introduce provider incentives favorable to positive outcomes.¹²⁷

To illustrate how this might work—and how provider incentives might change under an outcomes-based regime—we turn to the U.S. market for checking accounts, one of the most widely used financial products and one in which there is little apparent variation across products or prices. Nevertheless, recently mandated data reporting requirements have revealed

¹²⁶ See *infra*, Part VI.

¹²⁷ It should be noted that the use of consumer data for other purposes is both ubiquitous and controversial (e.g., the data practices of Facebook and Google) and creates policy issues that are beyond the purview of this article. See, e.g., SHOSHANA ZUBOFF, *THE AGE OF SURVEILLANCE CAPITALISM* (2019).

considerable variation in consumer outcomes.¹²⁸

Every large bank offers consumer checking accounts with similar basic features. These include the ability to write checks or authorize electronic transfers to make bill payments. Virtually all checking accounts come with debit cards for processing point-of-sale and online payments and ATM transactions through Visa, Mastercard and debit networks such as NYCE and Pulse. Further, fee structures include charges for returning check and ACH transactions when funds are insufficient (NSF) or for honoring transactions after taking accounts into overdraft lines of credit or linked savings accounts. Most checking account products offer online and mobile channels for viewing balances, paying bills, and tracking payments and deposits.

Yet outcomes relevant to consumer financial health vary considerably from bank to bank, even on a risk-adjusted basis (i.e., even after accounting for differences in customer populations served). For example, despite similar per-transaction penalty pricing and nearly identical customer disclosures regarding overdrafts on debit card transactions,¹²⁹ the amount consumers spend annually on overdraft fees—and possibly the frequency with which they take their accounts negative—appears to vary widely among the top nationwide and top 25 regional and online US consumer banks, even after adjusting for differences in customer characteristics across institutions.¹³⁰

Overdraft practices have a clear connection to one indicator of financial health, which is the use of a bank account by a consumer. According to a Federal Deposit Insurance Corporation study in 2017, banks' fee practices cause financially vulnerable consumers to leave the banking

¹²⁸ Fed. Fin. Insts. Examination Council, *Draft FFIEC 031 and FFIEC 041 Call Report*, FFIEC (Dec. 29, 2014), https://www.ffiec.gov/pdf/ffiec_forms/FFIEC031_FFIEC041_20141229_fi_draft.pdf.

¹²⁹ Low, *supra* note 1, at 28 (“[I]n 2009, the Federal Reserve Board amended Regulation E to require that institutions wishing to charge a fee for overdrafts on OTCB transactions obtain affirmative consent; a consumer who does not provide affirmative consent is deemed to have not opted in.”); 12 C.F.R. § 1005.17 (2020).

¹³⁰ Beginning in 2015, the FFIEC required banks with assets over \$1 billion to report quarterly the fees they charge for checking account overdraft (OD) and returned payments due to non-sufficient funds (NSF). See CONSUMER FIN. PROT. BUREAU, *supra*, note 101. As a function of debit card charge volume (a way to normalize for differences in the populations institutions serve), OD and NSF charges vary along a distribution of more than 4-to-1 among the largest 20 U.S. banks [vertical axis in illustration—exhibit not for publication]. This variation exists despite little pricing variation and likely universal compliance among all the banks with mandated consumer disclosures regarding overdraft pricing at account opening and summaries of overdraft charges on monthly statements. The outcome variations these recently implemented metrics reveal indicate that overdraft usage may result from something other than “consumer choice,” but instead may stem from differences in bank marketing practices at account opening (regarding debit card overdraft opt-in) or non-transparent back office policies such as transaction posting orders and clearing times, overdraft limit amounts, or when fees are applied. Further investigation by consumer regulators and advocates may help explain these variations, as well as make projected overdraft costs more of a factor in consumers' selection of banks for checking accounts.

system entirely.¹³¹ Among consumers without a bank account, twenty-five percent reported high account fees and twenty percent reported unpredictable account fees as one reason for not having an account. Nine percent cited high fees as *the* primary reason for not having a bank account.¹³² The costs of being “unbanked” and thus reliant on alternative financial services providers such as check cashers, pay day lenders and money order providers are well documented, totaling somewhere between \$1.8 billion and \$4.5 billion annually.¹³³

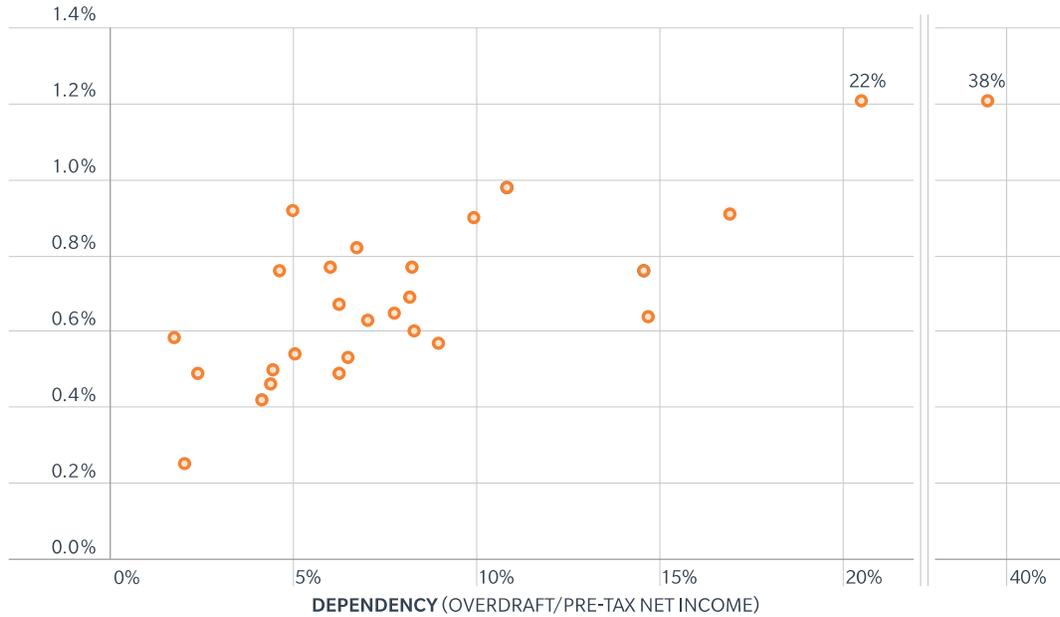
**Exhibit 1: Overdraft Intensity vs. Overdraft Dependency
Top 3 Nationwide and Top 25 Regional Consumer Banks**

¹³¹ FED. DEPOSIT INS. CORP., 2017 FDIC NATIONAL SURVEY OF UNBANKED AND UNDERBANKED HOUSEHOLDS 4 (2018).

¹³² *Id.*

¹³³ See, e.g., Tony Armstrong, *The Cost of Being Unbanked: Hundreds of Dollars a Year, Always One Step Behind*, NERDWALLET, <https://www.nerdwallet.com/blog/banking/unbanked-consumer-study/> (last visited May 18, 2020).

INTENSITY
(OVERDRAFT/DEBIT PURCHASE VOLUME)



Source: Bank Call Reports, Nilson Report, Oliver Wyman analysis

These differences likely have little to do with different preferences regarding checking account use among customers of different banks. Rather they likely stem from differences in provider practices, such as how the banks process checking transactions¹³⁴ or in how aggressively they encourage their customers to opt-in to debit card overdraft coverage¹³⁵ (e.g., by providing pay incentives to branch personnel or deploying “choice architecture” in relevant customer interactions designed to encourage consumers to opt-in).¹³⁶ Or the differences may stem from differences in what programs and tools the banks provide to encourage customers to accumulate emergency savings, track balances and avoid overspending

¹³⁴ See Tanisha M. Edwards, *The Banking Shuffle; Barring the Reordering of Consumer Transactions and Other Recommendations*, 20 N.C. BANKING INST. 253, 254 (2016) (describing how transaction order can affect the number of debit transactions that result in overdraft. For example, ordering debit transactions from largest to smallest amounts would generally yield more overdraft transactions than ordering them from smallest-to-largest).

¹³⁵ See Todd J. Zywicki & Nick Tuszynski, *The Economics and Regulation of Bank Overdraft Protection*, 13 ENGAGE: J. FEDERALIST SOC’Y PRAC. GROUPS 85, 86 (2012) (comparing one bank’s 93% overdraft protection opt-in rate when customers were solicited to opt-in versus the 75% opt-in rate for unsolicited customers).

¹³⁶ More research is necessary to normalize these outcomes so that different contributing factors can be clarified. See generally RICHARD H. THALER & CASS R. SUNSTEIN, *NUDGE: IMPROVING DECISIONS ABOUT HEALTH, WEALTH, AND HAPPINESS* (2009) (providing background on choice architecture). See also Richard H. Thaler, Cass R. Sunstein & John P. Balz, *Choice Architecture*, in *THE BEHAVIORAL FOUNDATIONS OF PUBLIC POLICY* 428 (Eldar Shafir ed., 2012).

and/or to make timely transfers to avoid overdrafting.

We can only guess what causes these large outcome disparities. Rather, our point is simply to show that the disparities have been made apparent by a new level of public disclosure—in this case, disclosure of banks' overdraft revenue implemented by federal bank regulators beginning in 2015.¹³⁷

Publication and broad dissemination of the comparative outcomes (in this case, how much consumers pay in overdraft fees) could lead a few consumers who worry about their propensity to overdraft to keep their checking accounts at banks with the lowest overdraft fee intensity—and eventually lead high-intensity banks to bring their practices in line with those of low-intensity competitors. But we are skeptical that such consumer choice-driven impacts would amount to much: few consumers are likely to seek out the information or to calculate how they might benefit from changing banks. And fewer still would actually move their checking accounts, given the high cost and time involved, particularly for consumers who are liquidity-challenged.

The findings could instead justify prescriptive regulatory intervention. Acting in response to the evidence of large outcome disparities, a regulator could try to isolate which differences in bank practices lead similarly situated consumers to experience higher or lower overdraft fees. For example, given that roughly half of all overdrafts result from debit card transactions, further analysis might show that a large portion of the bank-to-bank disparities in overdraft fee intensity can be attributed to differences in customer rates of opting-in to debit card overdraft. Such a finding might lead a regulator to mandate enhanced disclosures regarding the opt-in choice,¹³⁸ to require specific changes in banks' choice architecture to enable consumers to make more considered decisions,¹³⁹ or to proscribe specific marketing or employee incentive practices aimed at getting customers to opt-in. A more heavy-handed regulator might proscribe fees on debit card overdrafts altogether if it deemed the overall costs to consumers of overdrafting on debit cards exceeded the benefits.¹⁴⁰

But more productively—and less intrusively—the regulator could simply require outlier banks to bring their customer outcomes—in this case,

¹³⁷ See CONSUMER FIN. PROT. BUREAU, *Variations in Bank Overdraft Revenues and Contribution*, (2016), https://files.consumerfinance.gov/f/201602_cfpb_variation-in-bank-overdraft-revenues-and-contribution.pdf.

¹³⁸ E.g., “dynamic disclosures” could inform frequent overdrafters of their annual costs of their opt-in choice and savings to be obtained by reversing it based on their personal transaction histories.

¹³⁹ E.g., separate the opt-in decision in time and place from the time of account enrollment, when there are many demands on the customer's attention and they are most subject to suasion by bank staff.

¹⁴⁰ Or theoretically, a regulator could also cap the price consumers pay for debit card overdrafts, bringing them more in line with the benefits. However, the CFPB is prohibited from imposing “usury limit” price interventions. 12 U.S.C. § 5517(o).

customer-risk-adjusted overdraft fee intensity--closer to those of the median bank within a particular time frame. Or, if the regulator were accorded the requisite authority, it could require all banks to bring their overdraft intensities to the lower quartile, if it demonstrated that reducing overdraft fee intensity would benefit the overall financial health of affected customers. The regulator could recommend a menu of practice changes that could achieve the same changes in customer outcomes but leave each bank to decide which solutions would be least costly, most compatible with its internal systems or most conducive to maintaining or increasing customer satisfaction. Under this approach, outcomes-based regulation would avoid prescriptive interventions, grant maximum institutional autonomy in selecting remedies, and have negligible effects on ‘consumer choice’ (in this case, the ability to overdraw their accounts). It would be the outcomes that matter.

One can easily imagine a broader regulatory focus on financial health-related outcomes among customers of credit card issuers, mortgage originators, schools that originate government student loans, and providers of other financial products and services where the products may differ little on their face, but where actual customer outcomes vary considerably due to idiosyncratic provider practices and behavioral nudges. It is outcome data points like these that could be incorporated into a new system of financial health outcomes-based regulation.

V. NECESSARY ELEMENTS OF AN OUTCOMES-BASED SYSTEM

The design of a data-driven and outcomes-based regulatory system requires clear measurement of defined outcomes. Despite the many challenges inherent in creating empirically measurable consensus definitions of “financial health,” we believe that the metrics outlined by the Financial Health Network and the CFPB could provide the initial template for a system of outcomes-based regulation. This system could be refined over time as advanced analytics correlate raw data on consumers’ day-to-day financial lives and product usage with their overall financial health. Any outcomes-based system will inevitably evolve “where the data takes it”. Increasingly sophisticated and specific intermediate measures will have high salience to particular products and practices and “roll up” along with other detailed measurements into the widely understood high-level financial health metrics that underpin the system.

In the system we envision, non-empirical concepts such as “unfairness” will gradually become “empiricized” as data becomes available, showing provider and product variation relative to normative standards of financial health and changes in those metrics or in measurable intermediate outcomes closely correlated with those metrics. The authors believe that adoption of an outcomes-based system built around financial health metrics could ultimately make otherwise unresolvable philosophical and policy disputes associated with non-empirical concepts (e.g., “freedom of choice” vs.

“protection of the vulnerable”) irrelevant.

If we accept in principle that a rigorously defined group of financial health measurements could form the basis of an outcomes-based regulatory system for consumer financial services, we must then turn to the question of what the necessary elements of such a system would be. We suggest seven requirements:

1. *The system should be empirical, data-driven and fully transparent to participants and the public.* Because the changes imposed by any outcomes-based system are likely to be profound and far-reaching, the implementation of any system must be entirely transparent to both providers and the public. Transparency is also critical because the success of any data-based system will depend on research insights and new product developments that will require open access to the publicly available data sets provided by the system.
2. *The system should minimize risks to privacy.* Because the source of the data populating any new system will be aggregated personally identifiable financial information collected from a variety of financial services providers, appropriate steps will be required to de-identify and secure that information.
3. *The system should be longitudinal and measure relative change.* To adjust for fluctuations in economic conditions, the system must assess period-to-period changes in financial health outcomes as opposed to measuring absolute outcomes in relation to “targets” or fixed standards. This will allow the system to work effectively to depict each provider’s longitudinal outcomes relative to those of other providers of equivalent products during the same time periods.
4. *The system should normalize for different consumer circumstances.* This would include life-stage, marital status, numbers of dependents, and other consumer specific factors. Exogenous factors that vary with geography, such as local economic and employment conditions, differences in property values and costs of living should also be considered. The approach would be similar to the “risk adjusted outcomes” used in health care that account for different patient populations and associated socioeconomic determinants of health. Adjusting for differences in populations served is essential before outcomes at different financial services providers can be fairly compared.
5. *The system should accommodate learning and innovation.* Any outcomes-based system should be iterative, flexible and able to learn by design as circumstances change, analyses are refined, and product

innovation occurs. As more data becomes available and market innovations occur in response, the system will need to adjust regularly and automatically to remain effective. Providing regulators and providers with the ability to readily measure product innovations' impact on consumer outcomes reduces the perceived risk of innovation for both regulators and providers.¹⁴¹

6. *The system should enable a progressive rebalancing of provider incentives in the marketplace to include financial health outcomes and progressively rely more on marketplace mechanisms and less on regulatory mandates¹⁴² to deliver desired outcomes.* The system should seek to create an effective and efficient market with incentives that balance financial health outcomes with profitability. For those who prefer that government not seek to “artificially” influence consumer behavior through the “nudges” of behavioral interventions, we believe that in an outcomes-based system it will be the providers, not the government, who will seek to influence consumer behavior to meet their rebalanced consumer financial health and financial return goals.¹⁴³
7. *A central regulatory authority should administer the system and seek to balance burdens with benefits.* While this may be a politically contentious idea, we believe that a primary regulatory authority will

¹⁴¹ Digital technology has accelerated the pace of innovation in consumer finance, resulting in new products and practices that do not fit neatly under established definitions or rules. Innovators often argue for blanket forbearance from compliance with existing rules where they believe benefits from their innovations outweigh the costs of compliance or where existing definitions are ambiguous and leave them facing a risk of future enforcement action or other costly regulatory action. Advocates generally oppose granting such forbearance because doing so tends to weaken or cabin the applicability of existing consumer protections. Providing a regulator with the ability to readily measure product innovations' impact on consumer outcomes reduces the perceived risk on both sides by making positive outcomes a condition of continued forbearance or consideration of permanent exceptions.

¹⁴² Excluding mandates to measure and report.

¹⁴³ Efforts to foster adoption of rules designed to address cognitive biases have become controversial because they pit neo-classicists' reliance on “informed choice” to drive consumer decisions against behavioralists' assertion that the rationality most consumers bring to key decisions is bounded by context and limitations (often stress-induced) on cognitive bandwidth. See Frank Shostak, *Is Behavioral Economics Good Economics?*, MISES INSTITUTE (Nov. 17, 2017), <https://mises.org/wire/behavioral-economics-good-economics>; see also Cass R. Sunstein, *The Ethics of Nudging*, 32 YALE J. ON REG. 414, 415 (2015); W. Kip Viscusi & Ted Gayer, *Behavioral Public Choice: The Behavioral Paradox of Government Policy*, 38 HARV. J.L. & PUB. POL'Y 973, 974-75 (2014). Yet many note that in a variety of commercial settings, firms have long employed behavioral science to construct contexts for consumer decisions and to exploit bounded rationality in order to induce consumers to make decisions favorable to their interests (e.g., to buy sooner rather than later, to pay more or buy more rather than less). Ben Mulholland, *Nudge Theory: How to Influence Decisions Without Ads*, PROCESS.ST (March 8, 2019), <https://www.process.st/nudge-theory/>; *Nudge Theory: How Brands Can Empower Customers Through Behavioral Science*, BRANDTRUST (Sept. 27, 2018), <http://brandtrust.com/nudge-theory/>.

be necessary to compel data reporting by providers, set measurement and data standards, and establish privacy safeguards. No private or quasi-private group could effectively play the necessary role, although any public authority could outsource aspects of its role to commercial entities if that was the quickest and most efficient method. That authority should also seek to reduce the burden on providers to the extent possible and consistent with the obligation to design and administer an effective system.

VI. THREE STAGE PROPOSAL

We propose a three-stage process to transition significant aspects of the current U.S. consumer financial services regulatory structure over time into a new system of outcomes-based regulation. We believe this new system should deliver positive financial health outcomes through new regulatory processes that are goal-aligned, data driven, measurable, learning and repeatable. The three proposed stages are (1) Continuous Reporting, (2) Public Disclosure, and (3) Mission Change and Regulatory Intervention. These stages should be implemented in sequence as each is a precondition for the success of the next. The timing of the three stages can be flexible, but the timeframes required to manage the infrastructure investments and the political processes needed to put each stage in place will be substantial. For example, we believe that at least three years will likely be necessary for Stage 1 to be completed.

The completed process should provide an effective counterweight to the current misalignment between provider incentives and consumer financial health, thus allowing the market to deliver a superior set of products and services with less prescriptive regulatory intervention. The regulatory mechanism for this change is an outcomes-based system organized around the concept of consumer financial health and powered by a continuously refined process of financial health data delivery, analysis and disclosure, backed by regulatory sanction.

Based on our analysis, some key aspects of the new outcomes-based regulation system will require federal legislation (particularly Stage 3, which will require a major restructuring of the regulatory mission of federal financial regulators), while other parts can be implemented using existing powers and authorities.

A. Stage 1: Continuous Reporting

Periodic Reporting by Largest Providers of Anonymized Consumer Information in Standardized Data Format.

The first stage of the proposal will require large consumer financial services providers to periodically¹⁴⁴ make available to the CFPB or another a federal agency¹⁴⁵ internal data the agency can use to analyze and measure changes in customers' financial health. For purposes of this article we will assume that the CFPB will be the lead federal agency for this proposal, although other alternatives could be equally effective.

This data reporting requirement would initially apply only to the largest providers of "consumer financial services," which at this stage¹⁴⁶ would be defined as a "consumer financial product or service"¹⁴⁷ provided by a "covered person"¹⁴⁸ under Dodd-Frank.¹⁴⁹ Those reporting would include (i) the providers responsible for the top 50% in market share (in descending order of number of customers served) of "prime"¹⁵⁰ products in

¹⁴⁴ The authors assume that an annual reporting cycle would be adequate initially, although prompt movement to quarterly or monthly reporting, perhaps at a lesser level of detail, should be implemented quickly thereafter, as the cost of more frequent structured data access through APIs or aggregators would be low. One can even envision immediate reporting of major events (e.g., inception of a loan, or shock to either wages or expenses) at some point after reporting and data protocols have been established and tested.

¹⁴⁵ The logical agency for this purpose would be the CFPB, but it would also be possible to assign authority to the FTC or a new agency.

¹⁴⁶ We propose, as indicated below, to eventually add securities/investment and insurance products, practices and providers to the outcomes-based structure.

¹⁴⁷ "Consumer financial product or service" is defined as those that are offered or provided for use by consumers primarily for personal, family, or household purposes, or that which is offered or provided in connection with such products. 12 U.S.C. § 5481(5). Specific enumerated activities include a broad spectrum of transactions from extending credit and servicing loans, to engaging in deposit-taking activities, to providing payments or other financial data processing products or services to a consumer by any technological means, including processing or storing payments made through online banking systems or mobile telecommunications networks. *Id.*

¹⁴⁸ A "covered person" is any person engaged in offering or providing a consumer financial product or service, and any affiliate if such affiliate acts as a service provider. *See id.* § 5481(6). A service provider includes "any person that provides a material service to a covered person in connection with the offering or provision by such covered person of a consumer financial product or service." *See id.* §5481(26). This includes providers that design, operate or maintain the product or service, or that process transactions. It does not include ministerial or non-material support services offered to businesses generally and those who provide advertising space. *See id.* § 5481(6).

¹⁴⁹ Dodd-Frank also includes "catch-all" authority to regulate products or services "entered into or conducted as a subterfuge to evade consumer financial law or permissible for a bank or financial holding company to offer or provide and has or likely will have a material aspect on consumers." The Dodd-Frank Act includes a rule of construction, stating a service provider shall be deemed a covered person to the extent it engages in the offering or provision of its own consumer financial product or service. Dodd-Frank Wall Street Reform and Consumer Protection Act, (Dodd-Frank Act), Pub. L. No. 111-203, 124 Stat. 1376 (2010) (codified as amended at 12 U.S.C. § 5481). *See also Advisory: Dodd-Frank Act*, COVINGTON & BURLING LLP (July 21, 2010), <https://www.cov.com/-/media/files/corporate/publications/2010/07/dodd-frank-act---bureau-of-consumer-financial-protection.pdf>.

¹⁵⁰ While distinguishing between prime and subprime products is easiest with credit, a simple exercise would be sufficient to identify individual products, e.g., prepaid debit cards, which primarily serve customers with lower incomes or poor credit. *See Jim Akin, What Does*

each major consumer financial category,¹⁵¹ and (ii) the providers responsible for the top 50% in market share (in descending order of number of customers served) of “subprime”¹⁵² products in each major subprime consumer financial category, in order to capture the products used by the most vulnerable populations.¹⁵³ For purposes of the provider size measurement, all affiliated covered persons would be aggregated.

While making data available on all customers is possible, the least burdensome manner of proceeding would be to ask providers to make available statistically valid samples (e.g., from 2-5% of customers) for analysis. As a point of comparison, the CFPB’s credit data panel that it uses to track credit experiences of consumers over time is a two percent national sample.¹⁵⁴

The justification for limiting the initial group of disclosing companies in this manner is partly practical. Smaller providers may not have the data analytics capability necessary to participate in the data collection exercise.¹⁵⁵ Separately, by restricting the initial data contributors to entities falling under the CFPB’s supervisory authority, the task of coordinating data standards and exchanges among multiple regulators can be avoided. While we contemplate that the number of providers reporting will increase in Stage 3, their participation is not critical to, and could even retard, the Stage 1 process. This approach will also create some issues with customer matching (e.g., all providers to an individual consumer may not be in the data set) and will skew the data towards the consumers who maintain relationships with the large providers who are required to provide data and away from customers of smaller providers.¹⁵⁶

Subprime Mean?, EXPERIAN (Oct. 28, 2019), <https://www.experian.com/blogs/ask-experian/what-is-subprime/> (providing a discussion of the distinction between prime and subprime).

¹⁵¹ We would propose that the “prime” categories include credit cards, standard debit cards, unsecured deposit accounts, auto loans and leases, unsecured installment loans, student loans, first mortgages, home equity loans/lines of credit and mortgage servicing.

¹⁵² Akin, *supra* note 150.

¹⁵³ We would propose that the “subprime” categories include credit cards, secured deposit accounts, auto loans, payday loans, bank overdraft protection, auto title loans, unsecured installment loans, prepaid debit cards and pawn loans, first mortgages, home equity loans/lines of credit and mortgage servicing.

¹⁵⁴ Consumer Fin. Prot. Bureau, *The CFPB Consumer Credit Panel: Direct Use and as a Sampling Frame*, (June 2015) (slide show available at https://apps.bea.gov/fesac/meetings/2015-06-12/Carroll_Presentation.pdf). Using a sample might also help overcome political resistance to a government agency collecting data on all customers—even if anonymized and encrypted.

¹⁵⁵ For banks and credit unions, the core processors generally provide this capability, but often at a steep cost.

¹⁵⁶ Note that restricting data collection to the largest providers is itself a sampling technique that is subject to error. Since the most useful analysis would only be possible on consumers about whom all relevant accounts were collected, a far smaller group would end up in the

The CFPB has ample legal authority to collect this data under both its supervisory authorities,¹⁵⁷ as well as under its separate “market monitoring” authorities,¹⁵⁸ subject to compliance with the requirements of administrative law.¹⁵⁹

Privacy Issues in Stage 1.

Maintaining the privacy of personally identifiable consumer information must of course be a priority in any data collection effort.¹⁶⁰

complete sample: just the consumers who used the largest players for all of their financial needs.

¹⁵⁷ 12 U.S.C. § 5511(c).

¹⁵⁸ Dodd-Frank Wall Street Reform and Consumer Protection Act § 1022(C)(4), 12 U.S.C. § 5512(c)(4): “(4) COLLECTION OF INFORMATION. — (A) IN GENERAL. —In conducting any monitoring or assessment required by this section, the Bureau shall have the authority to gather information from time to time regarding the organization, business conduct, markets, and activities of covered persons and service providers. (B) METHODOLOGY.—In order to gather information described in subparagraph (A), the Bureau may— (i) gather and compile information from a variety of sources, including examination reports concerning covered persons or service providers, consumer complaints, voluntary surveys and voluntary interviews of consumers, surveys and interviews with covered persons and service providers, and review of available databases; and (ii) require covered persons and service providers participating in consumer financial services markets to file with the Bureau, under oath or otherwise, in such form and within such reasonable period of time as the Bureau may prescribe by rule or order, annual or special reports, or answers in writing to specific questions, furnishing information described in paragraph (4), as necessary for the Bureau to fulfill the monitoring, assessment, and reporting responsibilities imposed by Congress. (C) LIMITATION. —*The Bureau may not use its authorities under this paragraph to obtain records from covered persons and service providers participating in consumer financial services markets for purposes of gathering or analyzing the personally identifiable financial information of consumers.*” [emphasis added].

¹⁵⁹ To date the CFPB has chosen to view its efforts to obtain information under its market monitoring authority as falling under the purview of the Paperwork Reduction Act, 44 U.S.C. §§ 3501–3521 (2018), which requires federal entities seeking to collect data for research purposes from large numbers of consumers or businesses to submit a cost-benefit analysis and justification for such exercises to OMB. A regime of continuously reporting large amounts of consumer data, which would require one-time systems investments by providers but limited ongoing expense to maintain, might fall more easily within its supervisory authorities. At the same time, Dodd-Frank tasks the CFPB with establishing a “risk-based” supervisory regime, in which its frequency and depth of examinations are based on the level of risk posed by particular product categories and particular providers, based on complaint volumes and other sources of evidence of consumer harm. Justification for establishing a regime of recurring reporting under either or both authorities could be based on an expectation that over time, and based on data analysis and consumer outcomes by the CFPB, the agency would both be able to reduce its long term reliance on intrusive examinations (and the burden they impose on covered persons) and be better able to spot practices, products, or entities that pose the greatest risks of consumer harm and thus warrant more fulsome examinations or enforcement investigations. *See also*, U.S. GOV’T ACCOUNTABILITY OFFICE, GAO-14-758, CONSUMER FINANCIAL PROTECTION BUREAU: SOME PRIVACY AND SECURITY PROCEDURES FOR DATA COLLECTIONS SHOULD CONTINUE BEING ENHANCED (2014).

¹⁶⁰ *See* Rory Van Loo, *The Missing Regulatory State: Monitoring Businesses in an Age of Surveillance* 72 VAND. L. REV. 1563, 1607-10 (2019) (discussing the data collection authorities of regulators responsible for preventing systemic failures and/or harm to individual consumers resulting from business conduct). Van Loo notes that protection of individuals’

Assuming that the CFPB decided to operate a consolidated data repository (two alternatives are discussed below), the authors believe that the data made available could be anonymized¹⁶¹ and encrypted by providers, so that no personally identifiable financial information (such as an individual consumer's name, address, income, or Social Security number) would be discoverable by the CFPB.¹⁶² The process would involve data matching techniques¹⁶³ and proxy identifiers to allow the CFPB to identify and analyze the sum total of interactions a given anonymous individual might have with multiple providers. As noted above, a sampling approach could be used to further reduce re-identification risk presented by anonymized data on individuals,¹⁶⁴ and to address inevitable political objections likely to be raised about a federal agency collecting detailed financial information on large numbers of U.S. citizens.¹⁶⁵ But any sampling approach would raise a

privacy has been used to justify curtailment of data collection by regulators tasked with monitoring business activities, and that debate regarding government collection information about individuals has often conflated the need to oversee and constrain the surveillance activities of "crime agencies" (concerned with prevention of crime by individuals) with the incidental acquisition of information pertaining to individual consumers by "regulatory monitors" (concerned with enforcement of civil law). *See id.* It is not the authors' intent to contribute to the debate regarding the permissibility of collecting personal information by the CFPB. Rather we note the risk that any accumulation of personal consumer records poses to individual privacy due to accidental disclosure or malicious intrusion (and regardless of whether the data is collected by private or state actors) and advance herein alternative practical solutions for minimizing that risk.

¹⁶¹ There is some doubt as to whether "anonymization" of personal financial data using traditional techniques is effective. *See* Luc Rocher, Julien M. Hendrickx & Yves-Alexandre de Montjoye, *Estimating the Success of Re-Identifications in Incomplete Datasets Using Generative Models*, NATURE COMM., 2019, at 1, 2.

¹⁶² This is necessary under current law because the CFPB, as a general rule, is prohibited from collecting and analyzing personally identifiable financial information. Nevertheless, the CFPB obtains some personally identifiable information (PII) through its supervisory exams and its enforcement investigations. Consequently, it has published nine voluntary privacy principles that guide when and how it collects, uses, shares, and protects PII. These principles should be adjusted by the CFPB to the extent needed to explicitly allow the matching processes described above. *See Privacy Policy*, CONSUMER FIN. PROT. BUREAU, <https://www.consumerfinance.gov/privacy/privacy-policy/> (last visited Feb. 7, 2020).

¹⁶³ Note that in order for the CFPB to match data from different services providers on the same consumers, the CFPB would either have to have the data for matching purposes, or it would have to delegate that role to a third party, such as one of the credit bureaus or a data aggregator. Most likely a third party with access to PII would administer and supply to providers a system of numerical identifiers to identify discrete individuals and permit matching by the CFPB. Or the data would be delivered to the third party with PII, then matched, and then forwarded to the CFPB with numerical identifiers that enable the CFPB to match new data to existing records.

¹⁶⁴ *See* SIMSON L. GARFINKEL, DE-IDENTIFICATION OF PERSONAL INFORMATION 20 (2015). *But see* Natasha Lomas, *Researchers Spotlight the Lie of 'Anonymous' Data*, TECHCRUNCH (July 24, 2019 6:30 AM), <https://techcrunch.com/2019/07/24/researchers-spotlight-the-lie-of-anonymous-data/>.

¹⁶⁵ Some commentators have expressed alarm at the wide-ranging powers of data collection possessed by the CFPB. *See e.g.*, Mark A. Calabria, *Examining the Consumer Financial*

separate set of concerns about the methods used to establish representativeness and maintenance over time (e.g., maintaining representative integrity as some individuals die and others enter adulthood).¹⁶⁶

While the simplest way to organize CFPB's access to data in Stage 1 is through transmission of data to a central repository for analysis, that is not the only way that CFPB data access could be structured. As an alternative to using a central repository for data (or at least minimizing the data collected), it may be possible to use readily available techniques such as federated learning (FL) and secure multiparty computation (SMC). Deployment of FL would allow the CFPB to train machine learning models on discrete pieces using isolated pools of data, then combine the "trained" discrete models into a larger model valid across all of the data, even though the data itself was never centralized. This technique is used by handset manufacturers, for example, to train voice recognition software without sending an individual's voice sample off the handset and has also been used in medical applications.¹⁶⁷

SMC (and particularly the type of SMC called privacy preserving data mining or PPDM) would allow the CFPB to execute cryptographically secure calculations against pre-agreed distributed data sets (e.g., an individual bank's loan portfolio) and assess the results without examining all the individual data points.¹⁶⁸

Using FL to train its algorithms and SMC/PPDM to apply those algorithms to discrete data sets should allow the CFPB to insulate itself from most of privacy risks associated with operating and protecting a centralized data repository. The CFPB could ultimately supply financial institutions with standardized, open-source software for the institution to run in their own data centers against their proprietary data, before reporting the results back to the CFPB. This would keep sensitive commercial and personally identifiable information out of the government's hands while still allowing regulated entities to provide accurate results to the regulator.

Another alternative method for affording CFPB access to provider data would be to create an industry utility which would set up a centralized

Protection Bureau's Mass Data Collection Program, CATO INST. (Dec. 16, 2015), <https://www.cato.org/publications/testimony/examining-consumer-financial-protection-bureaus-mass-data-collection-program>.

¹⁶⁶ Regulators that maintain panels of consumer credit history already deal with this issue. See e.g., CONSUMER FIN. PROT. BUREAU, SOURCES AND USES OF DATA AT THE BUREAU OF CONSUMER FINANCIAL PROTECTION (2018).

¹⁶⁷ Nicola Reike, *What is Federated Learning?* NVIDIA BLOG (Oct. 13, 2019), <https://blogs.nvidia.com/blog/2019/10/13/what-is-federated-learning/>. See Tony Peng, *Your Data Stays on Your Phone: Google Promises a Better AI*, SYNCED (May 5, 2019), <https://syncedreview.com/2019/05/07/i-o-2019-your-data-stays-on-your-phone-google-promises-a-better-ai>.

¹⁶⁸ The classic example of SMC allows a party to calculate the average income of everyone in a room without revealing any individual's income. For an overview of the technical issues see Yehuda Lindell and Benny Pinkas, *Secure Multiparty Computation for Privacy-Preserving Data Mining*, J. OF PRIVACY & CONFIDENTIALITY 197 (2008).

data repository and set standards for data structure and security. While this approach would likely be less cryptographically sophisticated than the FL and SMC path, it might be more politically palatable to the financial services industry and policy groups concerned with government, but not private party, access to consumer financial information. This alternative would allow industry representatives to establish security protocols and access terms consistent both with CFPB legal and regulatory requirements and their own estimation of competitive risk and required data security.

Whichever alternative is chosen, the goal of the CFPB's efforts will be the creation of a shared data ecosystem in which outcomes-related data from anonymized individuals and multiple products can be reported, matched and analyzed. In order to allow the CFPB effectively to analyze the data provided, it is critical that all reporting entities use the same data format and fields, and that the format/field requirements provide a simple process to allow changes to reflect developments in technology and financial products. It will also be necessary for the CFPB to design and implement, as quickly as possible, a standardized API¹⁶⁹ to automate, to the greatest extent possible, the data access and "clean up" process. The CFPB will be responsible for working with data providers¹⁷⁰ and promulgating regulations setting out initial data and API standards and the process for periodic updates and changes.

In order to effectively build and maintain the machine learning and other tools necessary to analyze the data from providers, the CFPB will need to build significant data science and data management capabilities, which will require hiring recognized experts or contracting with third parties for such expertise.¹⁷¹ The creation of a well-staffed and managed data sciences team will be necessary for the CFPB to safely access, securely house and analyze provider-submitted data on individual consumers.

Development of Consumer Financial Health Metrics

¹⁶⁹ "API" refers to an Application Programming Interface, which is a set of functions, procedures, methods or classes used by computer programs to request services from the operating system, software libraries or any other service providers running on the computer. Camille Siegel, *What is an API?*, API FRIENDS (Mar. 1, 2019), <https://apifriends.com/api-management/what-is-an-api/>. A computer programmer uses the API to make application programs. It serves as an interface between different software programs and facilitates their interaction, similar to the way the user interface facilitates interaction between humans and computers.

¹⁷⁰ Data providers could include the aggregators that currently collect and analyze large volumes of consumer financial data on behalf of financial technology firms.

¹⁷¹ The CFPB has the ability to offer salaries and benefits higher than other government agencies, which may be helpful with hiring data scientists who are in high demand in private industry. *Compare Benefits for New Employees*, CONSUMER FIN. PROT. BUREAU, 3 (2017), <https://arc.fiscal.treasury.gov/files/pdf/2018BenefitsforNewEmployees.pdf>, with *161A General Pay Schedule*, OFF. OF PERSONNEL MGMT, <https://www.opm.gov/policy-data-oversight/pay-leave/salaries-wages/2012/general-schedule/gp.pdf> (last visited Oct. 10, 2020).

The first and, in many ways, most important and difficult aspect of Stage 1 will be developing, standardizing, and testing a set of consumer financial health measurements, along the lines of those in development at the Financial Health Network and the CFPB. This project will require a significant commitment of agency resources and will not be without serious challenges given the multiple products and providers typically used by consumers. The goal will be the establishment and promotion of widely accepted measures of consumer financial health to use at both the product and provider level. These measures should exhibit stability over time, and either be applicable across customer groups or tailored to specific customer demographic cohorts, like age, based on the measure's predictive accuracy. The CFPB should have the resources to produce these measurements in a timely manner, although the metrics should always be subject to review and improvement based on subsequent research and analysis by the agency or by independent scholars (as contemplated by Stage 2).

The outcome measures used by the CFPB should be longitudinal so as to emphasize deltas, or changes, in consumer financial health metrics over time, rather than static measures.¹⁷² The longitudinal approach has a number of advantages. First, it avoids favoring providers of consumer financial services who serve more affluent populations where absolute levels of financial health will always be high. Further, by normalizing for differences in baseline population characteristics such as income, demographics or geography, the measures will permit useful comparisons of outcomes by product and provider. Finally, this approach controls for the impact of recessions and other macroeconomic factors, as the longitudinal approach automatically adjusts for changes in economic conditions.¹⁷³

Analysis of Data by CFPB.

Once the initial set of consumer financial health metrics are ready for use, the CFPB data sciences team will use the compiled provider data to analyze and measure correlations between financial product usage, product characteristics, individual providers and provider practices, on the one hand, and outcomes, on the other hand. In broad outline and subject to the privacy practices described above, this can be thought of as a repeatable process:

- Periodically access and format anonymized transaction, credit and provider practices data associated with the use of financial products from the systems of covered consumer financial services providers;
- Re-identify the discrete individuals that appear within that data across the covered providers and create baseline financial health

¹⁷² It is important to keep in mind that the goal of the exercise is not to determine which provider's customers are the most "financially healthy" but instead to measure how changes in financial health, positive or negative, within the customers of a particular provider compare to changes at other providers, controlled for differences in customer characteristics.

¹⁷³ It is likely that in some economic situations, financial health will deteriorate for all or most cohorts. But differences in the rate of deterioration will still have the potential to demonstrate product or provider-specific variation.

- profiles for those discrete individuals based on the data accessed;
- Periodically track changes in (a) product usage by those individuals and (b) provider practices across the covered providers reflected in the data over time;
 - Periodically track changes in the financial health profiles of those individuals reflected in the data over time;
 - Analyze data for statistical correlations between changes in individual financial health profiles and (a) usage of particular products and provider practices within specific covered providers and, (b) interactions between usage of multiple products and provider practices across all covered providers, and identify statistically significant outcomes; and
 - Use outcomes to refine data collection practices and priorities and improve financial health metrics for subsequent cycles.

As the CFPB's Stage 1 analyses are completed, data for individual providers would be transmitted back to the originating providers—along with benchmark data compiled from peer institutions—for review, correction, comment and revision. These provider interactions will be critically important in building trust in the data reporting system and its analytic outputs. We anticipate that providers will see the benefit of cooperating with the CFPB to correct errors, improve the quality of results and drive iterative improvements in data structure and analysis.

Stage 1 will boost the CFPB's empirical capabilities, which it can use in rethinking how best to identify harms and benefits to consumers and respond with regulatory alternatives to overbroad or overly narrow prescriptive regulation or ineffective disclosure-based rules.¹⁷⁴ Data that can accurately identify the harms and benefits resulting from particular practices or product features could be used to precisely tailor policies to prevent harm to customers of particular financial institutions, users of particular products or consumers characterized by specific financial circumstances.¹⁷⁵ It is even possible that financial health data will allow an empirically precise determination of the “appropriateness” of a product for a particular type of consumer.

¹⁷⁴ Outcomes data to measure the efficacy of new and existing rules, as an input to decisions to grant regulatory forbearance regarding new product innovations and in “sandboxes”, and as means of constructing randomized controlled trials to test alternative product restrictions or disclosures. The existence of a strong fact base will assist the agency in avoiding many of the ideological disputes which dominate policy discussion in the consumer finance area, which are stimulated by the lack of empirical evidence. The CFPB may also be in a position to begin to use the data-based empirical analyses resulting from Stage 1 in its supervisory and enforcement role with financial services providers, in lieu of or in addition to its current practice of “compliance” examinations.

¹⁷⁵ This type of analysis would create significant dissonance for advocates of “informed choice” as a regulatory paradigm.

In the long term, the turn toward empirically based regulation could transform the culture of regulation in positive ways for both regulators and providers. U.S. regulators have often been criticized for relying on a “check the boxes” approach to compliance regulation—based on examinations of dated provider financial information and flyspecking legal documentation—rather than assessing risk developments in real-time at the examined institution. This approach may and frequently does miss critical changes in the risk profile of the examined business. It also fails to take advantage of the revolution in data analytics, which would allow regulators to receive and analyze real-time feeds of financial information using AI-based tools.¹⁷⁶

B. Stage 2: Disclosure

Public Disclosure of Underlying Data and CFPB Analysis at Provider and Product Level.

On an annual basis, the CFPB would be required to publicly release its analysis of financial health outcomes and all underlying data on an institution-by-institution and product-by-product basis. The analysis would include mean, median and top quartile financial health outcomes, on both an absolute and delta basis, by provider and product.

As a mechanism for making data available for analysis by third parties, the CFPB could host the data and necessary analytical tools on a private network. This would provide a secure analytical “sandbox”, thus minimizing the risk of leaks and reducing reidentification risk. Credentialing research access and restricting duplication of the data outside the CFPB’s own systems and using cryptographic techniques such as “differential privacy” would further minimize reidentification risk.¹⁷⁷

Making large amounts of empirical data regarding consumer’s use of financial services outcomes available to academic and think-tank researchers, consumer advocates, legislators, governmental agencies, other financial providers and potential innovators in consumer financial services will stimulate further analysis and insight. As noted above, academic research is likely to be a significant and valuable input to refine the CFPB’s financial health metrics. As ongoing academic inquiry regarding correlations between product usage, providers, and outcomes persists and development of standards for normalizing outcome metrics by population group(s) continues, understanding by regulators and other constituencies will improve.

These data analyses, in turn, will introduce new dynamics into the financial services marketplace, not all of which are predictable *ex ante*. It

¹⁷⁶ See generally Barefoot, *supra* note 6;

^{166A} see also Dong Yang & Min Li, *Evolutionary Approaches and the Construction of Technology-Driven Regulations*, 54 EMERGING MKTS. FIN. & TRADE 3256, 3257-58, 3265 (2018).

¹⁷⁷ KOBBI NISSIM ET AL., *Differential Privacy: A Primer for a Non-Technical Audience*, 21 VAND. J. ENT. & TECH. L. 209, 225 (2018) (discussing the merits of differential privacy and the differential privacy guarantee).

seems likely that new financial products or practices will be designed to avoid adverse financial health consequences demonstrated by the data, and older ones modified. Credit models may be redesigned to take into account the interaction of products and the impact of financial health measures on loan performance. Consumer advocates and investor groups may use comparative data to press for changes in the practices of poorly performing institutions. Comparison sites, such as NerdWallet, are likely to provide analysis of the data in their reviews of particular companies and their products. Consumers who become aware of the comparative outcomes measures in the CFPB's release (likely a limited subset of all consumers) may change their provider preferences to work with high-scoring financial health providers rather than low-scoring providers or avoid products with poor financial health outcome distributions. Financial services investors and stock traders will parse the data for information on particular companies' risk and reward profile, while macroeconomic analysts will seek information to better understand consumer behavior.¹⁷⁸

The data should be of particular use to the many fintech firms that provide software-enabled financial guidance and behavioral finance products, typically in tandem with other fintech lending, liquidity, savings or transaction banking offerings. These companies should be able to use the data to improve their product offerings and benefit the consumers that use them.¹⁷⁹

In addition, it may be possible to accelerate the impact of the data collected and analyzed in Stages 1 and 2 through statutory mandates in the case of government entities and government-sponsored enterprises (e.g., FNMA, FHLMC, FHA, DOD, DOE). This undertaking may find support from an active outreach effort to relevant regulatory agencies, especially existing public and private institutions (e.g., VHA, FmHA, unions or large private employers). These institutions may be positioned to utilize the empirical record to construct recommendation engines or direct incentives to reward products and providers that generate the most positive outcomes on a risk-adjusted basis.

C. Stage 3: Mission Change

Embed Consumer Financial Health into the Mission of Financial Services Regulators.

While collection and analysis of data by the CFPB in Stage 1, followed by public disclosure in Stage 2, seem likely to provide some

¹⁷⁸ There is a clear parallel with the way that data availability associated with securities disclosure for asset-backed securities changed the way that investors evaluate consumer loans. See JED J. NELSON ET AL., ASSET-LEVEL TRANSPARENCY AND THE (E)VALUATION OF ASSET-BACKED SECURITIES 10 (2020).

¹⁷⁹ Examples include Digit, PayActiv, Even, Qapital, Dave, Brigit and many others.

marketplace-driven financial health benefits to consumers, ultimately regulatory action will likely be required to drive meaningful change in consumer financial health outcomes. The structural issues which have caused consumer financial services markets to deliver poor outcomes for so many consumers are deeply embedded in provider business models and have proven resistant to both disclosure-based and prescriptive regulation.

Our Stage 3 proposal provides a regulatory counterweight to the mismatched incentives and market structures prevalent in consumer finance by revising the statutory mission (or purpose) of the CFPB and, potentially, other financial regulators. Our proposal would explicitly designate improving consumer financial health as a primary goal of the agency and all of its regulations, supervision and enforcement powers. The CFPB's current statement of purpose, which mentions access to markets, fairness, transparency and competition, could be amended, for example, to add financial health: "The Bureau shall seek to implement and, where applicable, enforce Federal consumer financial law consistently for the purpose of ensuring that all consumers have access to markets for consumer financial products and services, that markets for consumer financial products and services are fair, transparent, and competitive [*and that all consumer financial products and services are designed to advance consumer financial health*]." ¹⁸⁰

In pursuance of a revised CFPB mandate for financial health, the CFPB would use the data gathered and analyses performed in Stages 1 and 2 to designate a "Financial Health Rating" for each provider under its jurisdiction. The Financial Health Rating (or "FHR") could take a number of different forms. The easiest path might be to follow the familiar structure used in the Community Reinvestment Act, which uses four ratings: Outstanding, Satisfactory, Needs to Improve and Substantial Noncompliance. ¹⁸¹ Ratings under an FHR system of this type would be assigned based upon the provider's relative performance under the Stage 2 analyses performed by the CFPB as well as the CFPB's assessment of other related factors (such as actions taken to improve performance) which may not as yet show up in reported data.

The CFPB would be required to transmit each provider's FHR to the appropriate federal and state prudential regulators for the provider. ¹⁸² It would also publicly release the FHRs for each provider. Federal regulators, such as the OCC, FDIC and Federal Reserve Board, would be required to

¹⁸⁰ The statement of purpose of the CFPB is included in Section 1021 of the Dodd-Frank Act: "The Bureau shall seek to implement and, where applicable, enforce Federal consumer financial law consistently for the purpose of ensuring that all consumers have access to markets for consumer financial products and services and that markets for consumer financial products and services are fair, transparent, and competitive." 12 U.S.C. § 5511(a).

¹⁸¹ 12 U.S.C. § 2906(b)(2).

¹⁸² For example, the FHR for a state non-member bank would be delivered to the relevant state banking agency and to the FDIC.

give effect to the FHR in their CAMELS rating.¹⁸³ As in the CRA, regulated entities could suffer adverse consequences in regulatory applications for mergers and other corporate actions if their FHR was in the lower two categories. Regulated entities might also become subject to more significant restrictions on their activities if a low FHR caused the overall CAMELS rating to drop into one of the lower categories.¹⁸⁴ While state regulators would not today be required to take action under the law as a result of a low FHR from the CFPB, some states might revise their laws or administrative practices to explicitly give regulatory consequence to the contents of FHRs or otherwise include FHRs in the data used for compliance review and enforcement actions.

The timing of the implementation of our Stage 3 proposal would depend upon the maturity and stability of the CFPB's Stage 2 analytic methodologies and the program of public disclosures described above. We think it prudent that at least two annual cycles of disclosure be completed before the FHR rating system is put into effect. We further suggest that the regulatory consequences of the FHR rating system be deferred until the second release of annual ratings to ensure providers have time to adjust to the framework.

Add Remaining Financial Services Providers to Stages 1 and 2.

The CFPB should, as part of Stage 3, require continuous reporting

¹⁸³ The FHR would presumably be included in the "compliance" portion of the rating. See Julie Stackhouse, *The ABCs of CAMELS*, FEDERAL RESERVE BANK OF ST. LOUIS: ON THE ECONOMY BLOG (July 24, 2018), <https://www.stlouisfed.org/on-the-economy/2018/july/abcs-camels>.

¹⁸⁴ An overall CAMELS score of 3, 4, or 5 can expose a financial institution to any of the informal and formal enforcement actions available to federal regulators. These regulatory tools include a menu of memorandums of understanding, consent orders, cease and desist orders, written agreements, and prompt directive action directives, imposed in an escalating manner if an institution's CAMELS scores do not improve or continue to degrade. The CAMELS ratings have several other supervisory implications for institutions. For instance, the agencies increase supervisory activities, which may include targeted examinations between regularly scheduled examinations, if an institution's CAMELS ratings are less than satisfactory. The agencies take CAMELS ratings into account when evaluating institutions' filings, such as merging with or acquiring another institution, opening new branches, or engaging in new activities. The agencies generally expect an institution to be in satisfactory condition, as reflected in its CAMELS ratings, before effecting expansion plans. The agencies expect an institution in less-than-satisfactory condition, or that has a less-than-satisfactory record of consumer compliance or performance under the Community Reinvestment Act to concentrate their managerial and financial resources on remediating their deficiencies. As such, composite and component ratings assigned under CAMELS are significant indicators of the need for heightened supervisory attention including enforcement actions for more problematic issues. The FDIC and the Federal Reserve have recently sought public feedback concerning the current use of CAMELS ratings by the agencies in their bank application and enforcement action processes. See Request for Information on Application of the Uniform Financial Institutions Rating System, 84 Fed. Reg. 58383 (Oct. 17, 2019).

under Stage 1 from the remaining consumer financial providers who were not part of the “large provider” group initially subject to reporting requirements. The larger group could include all supervised entities under the Dodd-Frank Act. This would encompass depository institutions with assets over \$10 billion and entities supervised under the initial Dodd-Frank mandate (e.g., all mortgage businesses and all payday lenders) plus all non-bank entities supervised under the CFPB’s various “Larger Participant Rules” for different product markets (e.g., debt collections, consumer reporting, installment lenders, auto lenders, etc.).¹⁸⁵ The several years between the adoption of the three-stage paradigm and the CFPB mission change should provide ample time for consultant and third-party technology providers to design technical solutions for smaller providers to comply with reporting requirements. While there will be a financial burden to providers associated with reporting, the benefits from access to comprehensive data sets at the CFPB would be substantial.

Stage 3 and Cumulative Impact.

The principal impact of the CFPB’s Stage 3 changes described above, which build on the data reporting and public disclosures in Stages 1 and 2, should be the creation of a counterweight to rebalance the unbalanced relationship between providers and consumers in the market caused by misaligned incentives and other structural issues. The counterweight in this instance would be the regulatory “price” imposed on low-performing providers by the FHR. In order to avoid the negative consequences of a poor FHR, providers should be heavily incented to better understand and measure financial health impacts and to emphasize delivery of products and services that can be shown to improve the financial health of their customers. While this is a different form of counterweight than the health care industry’s combination of professional and ethical duties and insurance payor oversight, it has the potential to be effective over time as providers adjust their market activities to account for the revised incentives. This approach has the added advantage of working largely through market mechanisms implemented by providers in their own interest rather than by a one-size-fits-all regulatory fiat.

Innovation and Avoidance of Unintended Consequences.

One possible unintended consequence of the FHR regime is that it might inadvertently create incentives impeding innovations that improve consumer financial health. Financial institutions might fear that well-intentioned efforts to introduce innovative products or processes could, if they don’t work out as expected, result in suboptimal financial health outcomes that would hurt the company’s FHR and create downstream issues for the business.

¹⁸⁵ 12 U.S.C. § 5515.

A solution to this would be to design a structure for safe experimentation into the FHR. Financial institutions could, for example, agree with regulators to designate certain products or programs as “experimental.” These experimental products would be evaluated against agreed metrics and reviewed on a periodic basis but would not count against an institution’s FHR until they ceased to be experimental and became part of the institution’s normal product suite. This experimental “safe space” should provide adequate protection for institutions while encouraging them to develop new ways to help customers meet financial health challenges.

Subsequent Extensions of Approach.

As the transition to outcomes-based regulation becomes embedded in consumer finance, there will be opportunities to extend the concept to other types of financial services products and providers that are not included in the first three stages. These providers include, most prominently, insurance companies, securities broker-dealers and asset managers. While such an extension would be highly controversial today, the success of outcomes-based regulation for other types of consumer financial services could encourage legislators to add these areas to the purview of the new system.

CONCLUSION

The three stages of (1) Continuous Reporting, (2) Public Disclosure, and (3) Mission Change and Regulatory Intervention will not be an immediate substitute for existing U.S. consumer financial protection law, nor is it certain how long the transition to a new form of outcomes-based regulation will take. What is certain is that the framework will generate rich empirical insights into the harms and benefits to consumers that result from particular provider practices or product features. Public disclosure of these insights should allow markets to drive changes in provider practices and allow regulators to adapt existing regulatory approaches to take into account these new insights. The authors’ belief is that, when fully operational, the new framework will allow the U.S. to discard many aspects of its imperfect and contentious rules and disclosure-based regulatory regime. In its place will be a “learning” system that is principles-based, data-driven, transparent and leverages market mechanisms to deliver improved financial health for consumers.¹⁸⁶

¹⁸⁶ The authors would like to thank Caroline Wattenmaker of Columbia Law School for her invaluable assistance with this article. Jo Ann Barefoot’s annual contest for “best regulatory reform” idea provided initial inspiration. We are grateful to the organizers of the 2020 Berkeley Consumer Law Scholars Conference, which provided an opportunity to workshop an initial draft. We would also like to thank Howell Jackson, Jeffrey Gordon, Christopher Odinet, Robert Sears, David Silberman, Rory Van Loo, Kathleen Engel, and Jennifer Tescher for their comments and suggestions on earlier versions.