

INTRINSIC IMBALANCE: THE IMPACT OF INCOME DISPARITY ON FINANCIAL REGULATION

STEVEN L. SCHWARCZ*

When I was young I thought that money was the most important thing in life; now that I am old I know that it is.

Oscar Wilde

From an administrative law standpoint, what, if anything, distinguishes financial regulation from other forms of regulation? In part, the answer is complexity; financial products and markets are already highly complex and becoming increasingly more so.¹ But this is only a partial answer because other regulatory spheres, such as environmental and nuclear regulation, can be at least as complex as financial regulation.

This article argues that what further, and more tellingly, distinguishes financial regulation from other forms of regulation is the extraordinary income disparity between regulators and industry employees.² This income disparity—coupled with the complexity of financial products and markets—creates an “information asymmetry”³ between regulators and industry that can lead to regulatory failure: the inability of regulators to fully understand, and thus to effectively monitor and regulate, financial innovations that might create systemic externalities.

Part I of this article demonstrates that there is at least a two-to-one income

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* Stanley A. Star Professor of Law & Business, Duke University School of Law (schwarcz@law.duke.edu), and Founding Director, Duke Global Capital Markets Center; Senior Fellow, The Centre for International Governance Innovation. I thank Stuart M. Benjamin, H. Jefferson Powell, Rosa Lastra, Eugene N. White, and participants in a Columbia Law School conference on the administrative law of financial regulation for valuable comments and Julia Boss and Baraem Nah for helpful research assistance. Support is provided in part by a gift to Duke Law School from the Eugene T. Bost, Jr. Research Professorship of The Cannon Charitable Trust No. 3.

1. Cf. Steven L. Schwarcz, *Regulating Complexity in Financial Markets*, 87 WASH. U. L. REV. 211, 212–13 (2009) (observing that complexity is “the greatest financial-market challenge of the future”).

2. This article focuses on the income disparity, or gap, between individuals with relatively similar backgrounds in terms of education and experience. It does not focus on the overall distribution of income, nor does it focus on earning disparities between individuals with different backgrounds.

3. This article uses the term “information asymmetry” broadly, to include an asymmetry in the processing of information. Economists sometimes use the term “information asymmetry” more narrowly, confining it to facts; in that more narrow sense, an information asymmetry would exist only if one party were to have more or better information than another party (regardless of either party’s ability to process the information).

disparity between financial industry employees and their regulatory counterparts. Part II of the article argues that this income disparity makes it difficult for financial regulatory agencies to hire competitively, thereby creating an information asymmetry between regulators and industry. Part III examines the adverse consequences of that information asymmetry to administrative-agency rulemaking, monitoring, and enforcement. Finally, part IV of the article discusses potential responses to the income disparity (and resulting information asymmetry).

This article focuses on financial regulation by administrative agencies. Legislative bodies typically delegate power to administrative agencies to implement statutory law through agency rulemaking, monitoring, and enforcement of compliance. The income disparity discussed in this article is a disparity between the incomes of administrative agency financial regulators and the incomes of employees in the financial industry being regulated.

To some extent, the income disparity is driven by administrative-agency budgets. Were a budget its only limit, an agency might have the flexibility to choose between hiring a smaller number of higher-income employees or a larger number of lower-income employees. In practice, however, this flexibility is somewhat limited. Some administrative-agency incomes are subject to per-person maximum compensation caps.⁴ Moreover, an agency's need for some minimum number of employees ultimately limits its ability to hire a smaller number of higher-income employees.⁵

I

THE INCOME DISPARITY

It is generally recognized that there is an income disparity between government regulators and private-sector employees in regulated industries. U.S. Bureau of Labor Statistics surveys indicate, for example, that federal government pay is around twenty-five percent lower than private-sector pay for similar jobs.⁶ This is mainly because federal government workers are typically

4. See *infra* notes 7–8 and accompanying text.

5. See, e.g., *infra* notes 82–83 and accompanying text (discussing the large number of regulatory personnel needed to pursue enforcement actions); cf. William Alden, *For 2 Wall Street Regulators, More Belt-Tightening*, N.Y. TIMES, Jan. 14, 2014, http://dealbook.nytimes.com/2014/01/14/for-2-wall-street-regulators-more-belt-tightening/?_php=true&_type=blogs&_r=0 (reporting that under Congress's restricted new budget proposal, the U.S. Securities and Exchange Commission “would probably not reach [its] goal” of hiring “an additional 676 workers in 2014”).

6. Gregory B. Lewis & Sue A. Frank, *Who Wants to Work for the Government?*, 62 PUB. ADMIN. REV. 395, 396 (2002) (discussing the income disparity generally between the public and private sector for similar jobs). Lewis and Frank also state that “economists typically find that *similar workers* (those of the same race and sex with the same levels of education and experience) earn much more in the federal than in the private sector . . .” *Id.* If those economists' findings are accurate, the impact of the income disparity between the public and the private sector may be even more pronounced for financial jobs than for nonfinancial jobs because federal government pay would be more comparable to private-sector pay for similar jobs generally, whereas it would still be more than fifty percent lower than private-sector pay for similar financial jobs. Cf. *infra* note 33 and accompanying text (making a

paid in accordance with the general schedule or the executive schedule as overseen by the U.S. Office of Personnel Management.⁷ For each pay grade, there is a maximum compensation cap.⁸ Thus, the “public sector is not usually able to compete with the salaries offered by private employers, especially those of highly educated personnel and managers.”⁹

A much larger income disparity exists, however, between financial regulators and private-sector employees of the financial industry. This disparity can be demonstrated by comparing the incomes of representative financial industry workers and government regulators. The U.S. Bureau of Labor Statistics reports, for example, that entry-level investment bankers, who are categorized as financial analysts, had a median annual salary of \$90,560 in 2012 and a mean annual salary of \$111,650.¹⁰ Higher-level investment bankers, who are categorized as financial managers, earned an average annual salary of \$160,900.¹¹ These figures represent salaries but do not account for options and bonuses, which are a prevalent form of additional compensation in the financial industry.¹² Wall Street bonuses averaged \$138,970 in 2010.¹³ Even entry-level investment bankers, with only bachelor’s degrees, earned an average bonus of \$55,000 in 2013.¹⁴

comparison based on the U.S. Bureau of Labor Statistics survey data).

7. Federal Salary Act of 1967, 5 U.S.C. § 5332 (2006) (“The General Schedule is a schedule of annual rates of basic pay, consisting of 15 grades, designated ‘GS-1’ through ‘GS-15’, consecutively, with 10 rates of pay for each such grade.”); *see also* OFFICE OF PERSONNEL MGMT, SALARY TABLE 2013-GS (2013), available at <http://www.opm.gov/policy-data-oversight/pay-leave/salaries-wages/2013/general-schedule/ga.pdf>.

8. 5 U.S.C. § 5333 (2006).

New appointments shall be made at the minimum rate of the appropriate grade. However, . . . [under certain enumerated circumstances] the head of an agency may appoint, with the approval of the Office in each specific case, an individual to a position at such a rate above the minimum rate of the appropriate grade

Id.

9. KIRSI ÄIJÄLÄ, THE ORG. FOR ECON. CO-OPERATION AND DEV. PUB. MGMT. SERV., PUBLIC SECTOR—AN EMPLOYER OF CHOICE? REPORT ON THE COMPETITIVE EMPLOYER PROJECT 29 (2001).

10. *Securities, Commodity Contracts, and Other Financial Investments and Related Activities: NAICS 523*, BUREAU OF LABOR STATISTICS, U.S. DEP’T OF LABOR, <http://www.bls.gov/iag/tgs/iag523.htm> (last visited Sep. 26, 2014).

11. *May 2012 National Industry-Specific Occupational Employment and Wage Estimates NAICS 523900 – Other Financial Investment Activities*, BUREAU OF LABOR STATISTICS, U.S. DEP’T OF LABOR, http://www.bls.gov/oes/current/naics4_523900.htm (last visited Sep. 26, 2014).

12. *See* OFFICE OF THE STATE COMPTROLLER, NEW YORK SECURITIES INDUSTRY BONUS POOL (2013), available at <http://www.osc.state.ny.us/press/releases/feb13/avgbonus.pdf> (listing the average bonuses given to Wall Street employees annually).

13. *Id.*

14. *See* Brian DeChesare, *2013 Investment Banking Bonuses: Is “Flat” Better Than Nonexistent?*, MERGERS & INQUISITIONS, <http://www.mergersandinquisitions.com/2013-investment-banking-bonuses/>. For the bonuses of non-top-tier firms, around \$10,000 needs to be subtracted. *Id.*; *cf.* *Investment Banking: Salaries*, CAREERS-IN-BUSINESS.COM, <http://www.careers-in-finance.com/ibsal.htm> (last visited Sep. 24, 2014) (reporting that bonuses for first-year private-sector financial analysts ranged between \$20,000 and \$40,000 in 2013).

Contrast these figures with public-sector salary data for reasonably comparable jobs. Although the maximum compensation cap¹⁵ does not apply to many federal financial regulatory agencies,¹⁶ those agencies are still limited by budgetary constraints.¹⁷ As a result, entry-level financial employees of the U.S. Securities and Exchange Commission (SEC) are paid only between \$39,094 and \$58,904 in base salary.¹⁸ Entry-level employees at federal banking regulatory agencies are paid comparable salaries.¹⁹ This contrasts with the twice-as-high salaries of entry-level private-sector financial analysts.²⁰

The compensation differential between more-senior public-sector jobs and private-sector financial jobs might appear to be smaller: the FDIC, for example, might pay a senior financial analyst an initial salary of up to \$153,000,²¹ compared to the \$160,900 average salary paid to private-sector financial managers.²² However, that differential is almost certainly larger for two reasons: first, the quoted FDIC salary is a maximum and not an average;²³ and second, in addition to salary, huge bonuses are prevalent in the financial industry,²⁴

15. See *supra* note 8 and accompanying text.

16. Some federal financial regulatory agencies are statutorily permitted to set their own pay schedule and therefore are able to offer salaries that exceed the limits of the general schedule. Thus, the Federal Reserve System, Office of the Comptroller of the Currency (OCC), Office of Thrift Supervision, Federal Deposit Insurance Corporation (FDIC), National Credit Union Administration, and Securities and Exchange Commission (SEC) are exempt from those limits, although each such agency is still subject to its own internal limits. See, e.g., *2013 FDIC Base Salary Structures*, FED. DEPOSIT INS. CORP., <http://www.fdic.gov/about/jobs/2013cgcmcxem.pdf> (last visited Sep. 24, 2014) (listing FDIC pay scale); *2014 FR Salary Structures*, FED. RESERVE BOARD, <http://www.federalreserve.gov/careers/salary.htm> (last visited Sep. 24, 2014) (listing Federal Reserve Board pay scale); *Salaries*, OFFICE OF COMPTROLLER OF CURRENCY, <http://www.occ.gov/about/who-we-are/careers/salaries.html> (last visited Sep. 24, 2014) (listing OCC pay scale); 5 U.S.C. § 4802 (exempting the SEC from compensation limits). For the SEC, no pay plan was publicly available.

17. See *supra* note 5 and accompanying text.

18. See *SEC Pay Structure: Base Pay Ranges*, U.S. SEC. & EXCH. COMM'N, <http://www.sec.gov/jobs/sec-pay.shtml> (last visited Jan. 5, 2015) [hereinafter *SEC Pay Structure*] (listing the minimum and maximum for SK-7 level employees (effective Jan. 26, 2014)). SK-7 level employees include entry-level examiners with a bachelor's degree in finance or business. *Opportunities for Examiners with the SEC*, U.S. SEC. & EXCH. COMM'N, <http://www.sec.gov/jobs/examiners.htm> (last visited Jan. 5, 2015) [hereinafter *Opportunities for Examiners with the SEC*]. These figures do not account for a supplementary geographical pay that can be higher, including 30.74% higher for New York City. See *SEC Pay Structure*, *supra* note 18.

19. See *Opportunities for Examiners with the SEC*, *supra* note 18.

20. See *supra* note 10 and accompanying text.

21. See, e.g., *Senior Financial Analyst*, U.S. OFFICE OF PERSONNEL MANAGEMENT, <https://www.usajobs.gov/JobSearch/Search/GetResults?OrganizationID=FD00&ApplicantEligibility=All> (last visited Dec. 8, 2014) [hereinafter *Senior Financial Analyst*] (indicating the high end of the base salary range offered for this type of FDIC position).

22. See *supra* note 11 and accompanying text. I could not corroborate, however, the extent to which public-sector senior policy analysts and private-sector financial managers are perfectly comparable jobs.

23. The low end of the base salary range offered for that type of senior FDIC position, for example, is in the \$93,000 range. See *Senior Financial Analyst*, *supra* note 21.

24. See *supra* notes 12–13 and accompanying text.

whereas bonuses are rare and smaller in size within the public sector.²⁵ Thus, the real comparison of the senior public-sector salary may be to a senior private-sector compensation of \$299,870.²⁶ If that comparison is accurate,²⁷ it again represents at least a twice-as-high compensation of the private sector over the public sector for financial jobs.

This approximately two-to-one private-sector compensation advantage is mirrored in all of the available data (except at the top compensation levels, where the private sector's compensation advantage spirals even higher²⁸). For example, private-sector financial examiners who “ensure compliance with laws and regulations governing financial and securities institutions and financial and real estate transactions” earn a mean annual salary of \$86,980,²⁹ whereas public-sector financial examiners performing the same type of work earn only \$50,000 annually.³⁰ Moreover, the two-to-one advantage shown by the data is probably conservative because the data reflect the recent post-financial crisis recession period,³¹ whereas private-sector compensation for financial jobs increases even

25. ORG. FOR ECON. CO-OPERATION AND DEV., PUBLIC MANAGEMENT OCCASIONAL PAPERS NO. 15: PERFORMANCE PAY SCHEMES FOR PUBLIC SECTOR MANAGERS: AN EVALUATION OF THE IMPACTS (1997). Although no law limits the number or size of bonuses that can be paid to federal agency workers, the appropriateness of bonuses are judged by agency heads and overseen by Congress. U.S. GEN. ACCOUNTING OFFICE, EXECUTIVE BONUSES: INFORMATION ON FDIC'S AND RTC'S EXECUTIVE BONUS PROGRAMS 2 (1993), available at <http://www.gao.gov/assets/220/218721.pdf>. Indeed, another source suggests that a representative bonus for an FDIC senior financial analyst may be in the \$5,000 range. See *FDIC Senior Financial Analyst Salary*, GLASSDOOR.COM, http://www.glassdoor.com/Salary/FDIC-Senior-Financial-Analyst-Salaries-E18376_D_KO5,29.htm (last visited Dec. 8, 2014); see generally OFFICE OF THE INSPECTOR GENERAL, U.S. SEC. & EXCH. COMM'N, 2008 AUDIT OF SENSITIVE PAYMENTS (2009), available at http://www.sec.gov/oig/reportspubs/final_sensitive_payments_report.pdf (auditing 2008 compensation, including bonuses, of high level SEC staff).

26. This figure is the sum of the \$160,900 average salary paid to private-sector financial managers, see *supra* note 22 and accompanying text, and the \$138,970 average private-sector bonus, see *supra* note 13 and accompanying text.

27. Anecdotal evidence collected by the U.S. General Accounting Office suggests that comparison is generally correct, at least for the compensation differential between public-sector SEC jobs and private-sector equivalent jobs. See U.S. GEN. ACCOUNTING OFFICE, SECURITIES AND EXCHANGE COMMISSION: HUMAN CAPITAL CHALLENGES REQUIRE MANAGEMENT ATTENTION 2, 6 (2001), available at <http://www.gao.gov/assets/240/232683.pdf> (reporting that “SEC officials, who are aware of the significance of this [compensation differential] issue, told us that the SEC staff often make fifty percent less than employees in comparable positions in the private sector . . .”).

28. For example, the Chairman of the Federal Reserve receives an annual salary of \$201,700, see *FAQ on Selection of Federal Reserve Board Members*, FED. RESERVE BOARD (Jan. 31, 2014), http://www.federalreserve.gov/faqs/about_12591.htm, whereas the CEO of Bank of America earned an annual salary of \$1.5 million and, with the addition of options and bonuses, received \$24.8 million in total compensation, see *Big Bank Execs: What They Take Home*, CNN.COM, <http://money.cnn.com/news/specials/storysupplement/ceopay/> (last visited Sep. 24, 2014) (reporting on 2007 compensation).

29. BUREAU OF LABOR STATISTICS, U.S. DEP'T OF LABOR, OCCUPATIONAL EMPLOYMENT AND WAGES, MAY 2013, available at <http://www.bls.gov/oes/current/oes132061.htm>.

30. OFFICE OF THE COMPTROLLER OF THE CURRENCY, ENTRY-LEVEL BANK EXAMINERS, available at <http://www.occ.gov/about/who-we-are/careers/entry-level-bank-examiner.html>.

31. All of this article's private-sector financial-job compensation data come from the period 2010–2013. See *supra* notes 10, 11, 13, 14, & 29 and accompanying text.

more during financial booms.³²

Thus, although federal government pay is around twenty-five percent lower than private-sector pay for similar jobs generally,³³ it appears to be more than fifty percent lower than private-sector pay for similar financial jobs.

II

THE RESULTING INFORMATION ASYMMETRY

This huge income disparity, in which financial regulators earn only (and perhaps less than) half the income of members of the financial industry, makes it difficult for regulatory agencies to hire competitively compared to industry. As explained below, that, in turn, creates an information asymmetry between the two groups.

A. The Income Disparity Makes it Difficult for Regulatory Agencies To Hire

Because of the income disparity, regulatory agencies cannot hire competitively compared to the financial industry.³⁴ Consider, for example, the SEC's staffing crisis, which is "primarily due to [an] inability to compensate [SEC] employees adequately."³⁵ With "few exceptions, departing [SEC] employees overwhelmingly cite[d] the higher salaries offered by private sector firms as their primary reason for resigning."³⁶ Salary was also cited as the major reason for prospective employees declining SEC employment offers.³⁷ Other studies have confirmed this government-salary problem, finding that "too many of the best recruits are rethinking their commitment, either because they are fed up with the constraints of outmoded personnel systems and unmet expectation for advancement or *simply lured away by the substantial difference between public and private sector salaries* in many areas."³⁸

Other things being equal, people choosing between employment offers will

32. Philip Bond & Vincent Glode, *The Labor Market for Bankers and Regulators* 27 REV. FIN. STUD. 2539, 2557–60, 2567–68 (2014) (finding that during financial booms, financial firms "poach" the best regulatory workers by offering even greater compensation).

33. See *supra* note 6 and accompanying text. The above comparison may even understate the relative impact of the income disparity for financial jobs. See *supra* note 6.

34. See, e.g., Camelia M. Kuhnen, *Searching for Jobs: Evidence from MBA Graduates* 25–27 (Working Paper, March 2011), available at http://public.kenan-flagler.unc.edu/faculty/kuhnenc/RESEARCH/Kuhnen_SearchingForJobs_030411.pdf (noting that, in general, candidates with higher ability self-select into higher paying jobs).

35. *Pay Parity Implementation Plan and Report*, U.S. SEC. & EXCH. COMM'N, (Mar. 6, 2002), <http://www.sec.gov/news/studies/payparity.htm> ("Public Service always entails an element of sacrifice on the part of government employees.").

36. *Id.*; accord U.S. GEN. ACCOUNTING OFFICE, *supra* note 27, at 6 ("By an overwhelming majority, current and former SEC attorneys, accountants and examiners we surveyed cited compensation as their primary reason for leaving the SEC.").

37. U.S. SEC. AND EXCH. COMM'N, *supra* note 35.

38. THE NAT'L COMM'N ON THE PUB. SERV., URGENT BUSINESS FOR AMERICA: REVITALIZING THE FEDERAL GOVERNMENT FOR THE 21ST CENTURY 8 (2003) (emphasis added).

select the offer paying twice as much as alternatives.³⁹ Next, examine whether, in choosing between employment by a public-sector regulator and a private-sector firm, other things are truly equal.

There are two relevant frameworks by which to assess human economic decisionmaking in choosing employment. The more general framework is rational choice theory (RCT),⁴⁰ which assumes that rational people will pursue the greatest net benefits.⁴¹ Although individuals will therefore seek, other things (again) being equal, a higher-paying job over a lower-paying job,⁴² other things will not necessarily be equal when choosing between public-sector and private-sector employment. RCT studies show that that choice can involve differences in workplace values,⁴³ degrees of risk aversion,⁴⁴ reward preferences,⁴⁵ and personality types.⁴⁶ However, the extent to which these differences outweigh income differentials is inconclusive.⁴⁷

Public sector motivation (PSM)—“an individual’s predisposition to respond to motives grounded primarily or uniquely in public institutions and organizations”⁴⁸—is the other relevant framework by which to assess human economic decisionmaking in choosing between public-sector and private-sector jobs. PSM posits that some individuals will choose to earn less money in the

39. See generally John W. Boudreau, Wendy R. Boswell, Timothy A. Judge, & Robert D. Bretz Jr., *Personality and Cognitive Ability as Predictors of Job Search Among Employed Managers*, 54 PERSONNEL PSYCHOLOGY 25, 44–45 (2001) (discussing the relationship between cognitive ability, pay, and search intensity in the job search process); FRANKLIN P. KILPATRICK, MILTON C. CUMMINGS, & M. KENT JENNINGS, THE BROOKINGS INSTITUTION, *THE IMAGE OF THE FEDERAL SERVICE* 23–24 (1964) (finding that income remains one of the most important factors during the job-making decision); Kevin M. Murphy, Andrei Shleifer & Robert W. Vishny, *The Allocation of Talent: Implications for Growth* (Nat’l Bureau of Econ. Research, Working Paper No. 3530, 1990) (observing that a large income disparity may provide a strong incentive to gain employment in the higher paying occupation).

40. See generally Steven L. Green, *Rational Choice Theory: An Overview* (May 2002) (unpublished manuscript), available at http://business.baylor.edu/steve_green/green1.doc. (providing an overview of rational-choice theory for non-specialists).

41. *Id.* at 4–5. Net benefits mean benefits net of costs.

42. See *id.* (noting RTC analysis is premised upon the assumption that individuals choose the preferred alternative).

43. See, e.g., Phil Hodkinson & Andrew C. Sparkes, *Careership: A Sociological Theory of Career Decision Making*, 18 BRIT. J. SOC. EDUC. 29, 33–36 (1997).

44. See, e.g., Don Bellante & Albert N. Link, *Are Public Sector Workers More Risk Averse than Private Sector Workers?*, 34 INDUS. & LAB. REL. REV. 408, 408 (1981) (showing that individuals with a high level of risk aversion are more likely to seek employment in the public sector, implying that a policy of intersectoral equality of pay for comparable jobs would result in an excess supply of workers to the public sector).

45. See, e.g., Hal G. Rainey, *Reward Preferences Among Public and Private Managers: In Search of the Service Ethic*, 16 AM. REV. PUB. ADMIN. 288, *passim* (1982).

46. See, e.g., Scott C. Douglas & Mark J. Martinko, *Exploring the Role of Individual Differences in the Prediction of Workplace Aggression*, 86 J. APPLIED PSYCHOL. 547, 547–59 (2001).

47. Cf. Melissa Wong, Elliroma Gardiner, Whitney Lang, & Leah Coulon, *Generational Differences in Personality and Motivation: Do they Exist and What are the Implications for the Workplace?*, 23 J. MANAGERIAL PSYCHOL. 878, 878 (2008) (noting no personality differences between baby boomers, those of “Generation Y,” and those of “Generation X”).

48. James L. Perry & Lois R. Wise, *The Motivational Bases of Public Service*, 50 PUB. ADMIN. REV. 367, 368 (1990).

public sector in order to work for the public good.⁴⁹

Proponents of PSM argue that “effective and well-functioning public organizations are populated by individuals with a sense of PSM, that this sense actively motivates employees in their work, and, implicitly, that such considerations do not motivate employees of private firms.”⁵⁰ Thus, public-sector employees can be motivated by factors other than income,⁵¹ whereas private-sector employees place a higher value on economic rewards than public-sector employees.⁵²

The reliability of PSM is not, however, free from doubt. Although some studies find that highly educated and more experienced workers are far more likely to choose the public sector, offsetting lower wages with rewards arising from the characteristics of their jobs,⁵³ other studies find no differences in the relative value of money between public-sector and private-sector employees⁵⁴ and find that compensation is a decisive factor even for workers with high PSM.⁵⁵ One study even finds that public-sector employees value compensation

49. Hal G. Rainey & Paula Steinbauer, *Galloping Elephants: Developing Elements of a Theory of Effective Government Organizations*, 20 J. PUB. ADMIN. RES. & THEORY 1, 23 (1999) (referring to a “general altruistic motivation to serve the interests of a community of people, a state, a nation or humankind”). Other motivations contrast with PSM, such as psychopathic personalities being drawn to and thriving in turbulent workplaces, such as investment banks. Clive R. Boddy, *The Implications of Corporate Psychopaths for Business and Society: An Initial Examination and a Call to Arms*, 1 AUSTRALASIAN J. OF BUS. & BEHAV. SCI. 30, 30–40 (2005) (“Corporate Psychopaths are simply the roughly 1% of the population who are certifiably psychopathic and who work in corporations and other business organisations. Unlike the criminal psychopaths of popular imagination these people are not identifiably insane or suffering from mental delusions but are just ruthless, corporate careerists.”). Research has predicted that the incidence of “corporate psychopaths” may be as high as four percent on Wall Street. Paul Babiak, Craig S. Neumann, & Robert D. Hare, *Corporate Psychopathy: Taking the Walk*, BEHAV. SCI. & LAW 174, 183 (2010) (cautioning that this number was extrapolated from a small sample and may not be representative of the private financial sector).

50. See Patrick Francois, ‘Public Service Motivation’ as an Argument for Government Provision, 78 J. PUB. ECON., 275, 276 (2000).

51. See Sue A. Frank & Gregory B. Lewis, *Government Employees Working Hard or Hardly Working?*, 34 AM. REV. PUB. ADMIN. 36, 36–51 (2004); cf. Josse Delfgaauw & Robert Dur, *Managerial Talent, Motivation, and Self-Selection into Public Management*, 94 J. PUB. ECON. 654, 655 (2010) (arguing that individuals will choose the sector that offers them the highest overall return on ability and that income is only a minor part of that return).

52. See, e.g., Ron Cacioppe & Philip Mock, *A Comparison of the Quality of Work Experience in Government and Private Organizations*, 37 HUM. REL. 923, 923 (1984); Hal G. Rainey, *Reward Preferences Among Public and Private Managers: In Search of the Service Ethic*, 15 ADMIN. & SOC’Y 207, 210–13 (1982); James R. Rawls, Robert Ullrich, & Oscar T. Nelson, *A Comparison of Managers Entering or Reentering the Profit and Nonprofit Sectors*, 18 ACAD. MGMT. J. 616, 618 (1976) (finding managers in the private sector valuing prosperity over helpfulness); Jay R. Schuster, Jerome A. Colletti, & L. Knowles, *The Relationship Between Perceptions Concerning Magnitudes of Pay and Perceived Utility of Pay: Public and Private Organizations Compared*, 9 ORG. BEHAV. & HUM. PERFORMANCE 110, 112–118 (1973) (contrasting perceptions about pay between public and private sector employees).

53. Rebecca M. Blank, *An Analysis of Workers’ Choice between Employment in the Public and Private Sectors*, 38 INDUS. & LAB. REL. REV. 211, 211, 219 (1985).

54. Gerald T. Gabris & Gloria Simo, *Public Sector Motivation as an Independent Variable Affecting Career Decisions*, 24 PUB. PERSONNEL MGMT. 33, 33 (1995).

55. Dennis Wittmer, *Serving the People or Serving for Pay: Reward Preferences Among Government, Hybrid Sector, and Business Managers*, 14 PUB. PRODUCTIVITY & MGMT. REV. 369, 378–

more highly than private-sector employees.⁵⁶ Still another study finds that individuals who value income would rather work for the public sector but are more likely to be employed in the private sector.⁵⁷

Even the notion that happiness is a dominant factor when reaching an employment decision is questionable. Recent research shows that individuals would rather pursue a higher-paying job making more demands on their time than a lower-paying job making only reasonable demands on their time.⁵⁸ None of these studies suggests, even implicitly, that PSM should be sufficient to overcome the two-to-one income disparity between financial regulators and members of the financial industry.⁵⁹

Moreover, even if PSM were, *arguendo*, otherwise generally sufficient to overcome that large disparity, the robustness of PSM is questionable in the context of persons interested in finance. Most studies on PSM generalize all public-sector workers, including so-called “parapublic” jobs in education and healthcare.⁶⁰ However, because the PSM of parapublic-sector employees is considerably higher than that of employees in other public-sector jobs,⁶¹ those studies skew the PSM of public-sector workers outside of education and healthcare—and thus of public-sector workers in finance—to appear higher than it actually is.

For persons interested in finance, the robustness of PSM is also questionable because those persons, *by reason of that very interest*, would be expected to inherently favor higher financial incomes. Some financial employees are, by

80 (1991). Cf. U.S. MERIT SYS. PROT. BD., *ATTRACTING THE NEXT GENERATION: A LOOK AT FEDERAL ENTRY-LEVEL NEW HIRES* 33 (2008), available at <http://www.mspb.gov/netsearch/viewdocs.aspx?docnumber=314895&version=315306&application=ACROBAT> (finding that yearly pay increases are the most important factor attracting new workers to federal government jobs).

56. Ebrahim A. Maidani, *Comparative Study of Herzberg’s Two-Factor Theory of Job Satisfaction Among Public and Private Sectors*, 20 PUB. PERSONNEL MGMT. 441, 441 (1991).

57. Lewis & Frank, *supra* note 6, at 398.

58. George Lowery, *When Opting for Happiness or Income, Many Go for the Cash*, CORNELL CHRON. (Sept. 16, 2011), <http://news.cornell.edu/stories/2011/09/study-finds-we-choose-money-over-happiness>.

59. Further, most research on PSM focuses only on its existence and not on actual job decisions. Robert Christensen & Bradley E. Wright, *The Effects of Public Service Motivation on Job Choice Decisions: Disentangling the Contributions of Person-Organization Fit and Person-Job Fit*, 21 J. PUB. ADMIN. RES. & THEORY 723, 724 (2011). When assessing the impact of PSM on job decisions, it is important to distinguish between public-sector preference and realistic public-sector choices. See Trui Steen, *Not a Government Monopoly: The Private, Nonprofit, and Voluntary Sectors*, in MOTIVATION IN PUBLIC MANAGEMENT 203, 204 (James L. Perry & Annie Hondeghe eds., 2008) (observing that pursuing public-sector work involves not only the choice but also the opportunity to do so).

60. E.g., Lewis & Frank, *supra* note 6, at 400; James L. Perry, *Antecedents of Public Service Motivation*, 7 J. PUB. ADMIN. RES. & THEORY 181, 190–93 (1997); Steen, *supra* note 59, at 204.

61. Sean T. Lyons, Linda E. Duxbury, & Christopher A. Higgins, *A Comparison of the Values and Commitment of Private Sector, Public Sector, and Parapublic Sector Employees*, 66 PUB. ADMIN. REV. 605, 613 (2006); see Christensen & Wright, *supra* note 59, at 724 (finding that high-PSM individuals may find public-sector jobs stressing welfare, education, and culture to be more attractive than other public-sector jobs).

their very nature, materialistic.⁶² Many others are taught to “focus on profit and the acquisition of wealth” by the very schools in which they receive their financial education.⁶³ Moreover, persons interested in finance may be attracted to the more innovative opportunities available in the financial industry to create financial products, in contrast to financial regulatory jobs in which they would primarily monitor the industry. Whatever the reason, empirical evidence indicates that the most well-trained financial employees self-select into higher-paying positions.⁶⁴

B. The Difficulty of Regulatory Agencies To Hire Creates an Information Asymmetry

The difficulty of regulatory agencies to hire competitively compared to the financial industry creates an information asymmetry between financial regulators and members of the financial industry. As shown below, the two-to-one income disparity drives a significant difference in employee intellect and abilities. Those attributes are critical to understanding complex financial products and markets.

Although the general problem of asymmetric information has been debated at length by scholars,⁶⁵ this article’s focus—on information asymmetry resulting from differences in intellect and abilities between regulators and the regulated—is new. Scholars studying information asymmetries between regulators and the regulated have focused in the past almost exclusively on information acquisition and product-development lag time.⁶⁶ Thus, when regulators acquire industry information, they do so “only with a lag, and indeed, in a rapidly changing environment, the information that they acquire may be of only limited relevance to the current situation.”⁶⁷

62. Cf. Daniel M. Cable & Timothy A. Judge, *Pay Preferences and Job Search Decisions: A Person-Organization Fit Perspective*, 47 PERSONNEL PSYCHOL. 317, 340–41 (1994) (observing that materialistic job seekers “placed greater emphasis on pay level”).

63. Robert A. Giacalone & Donald T. Wargo, *The Roots of the Global Financial Crisis Are in Our Business Schools*, 6 J. BUS. ETHICS EDUC. 147, 158 (2009) (examining the impact of business schools on the value systems of their students).

64. See Kuhnen, *supra* note 34, at 2.

65. See, e.g., Glenn Blackmon & Richard Zeckhauser, *Fragile Commitments and the Regulatory Process*, 9 YALE J. REG. 73, 104 (1992) (noting “the principal-agent relationship between the regulator and firm” and the firm’s “advantage of superior information”); Paul L. Joskow & Richard Schmalensee, *Incentive Regulation for Electric Utilities*, 4 YALE J. REG. 1, 18 (1986) (noting that “the regulator’s information is assumed to be inferior to that of the utility’s management” and that “the assumption of asymmetric information is quite plausible”).

66. E.g., STEPHEN BREYER, REGULATION AND ITS REFORM 109 (1982) (arguing that “[t]he central problem of the standard-setting process and the most pressing task facing many agencies is gathering the information needed to write a sensible standard.”); Cary Coglianese, Richard Zeckhauser, & Edward Parson, *Seeking Truth for Power: Informational Strategy and Regulatory Policymaking*, 89 MINN. L. REV. 277, 280–81 (2004); Henry T.C. Hu, *Misunderstood Derivatives: The Causes of Informational Failure and the Promise of Regulatory Incrementalism*, 102 YALE L.J. 1457, 1499 (1993) (arguing that regulators cannot keep up with the development of complex derivatives products because of the time lag).

67. David E.M. Sappington & Joseph E. Stiglitz, *Information and Regulation*, in PUBLIC

That focus is limited to regulators *obtaining* information and the innate advantages the financial industry gains from developing the products to be regulated and, hence, not having to acquire information about them through third parties. It therefore only indirectly concerns differences in intellect and abilities; because industry first develops the products to be regulated, even the brightest and most able regulators would be disadvantaged and subject to lag time.

In contrast, this article's focus on significant differences in intellect and abilities goes to the ability of financial regulators to *process the information once obtained*. In order to process that information, regulators must have sufficient expertise to understand the financial transactions and their terms, the legal and financial obligations of the different parties involved, and the level of risk taken on by the regulated firms.⁶⁸

There are at least three levels of complexity in financial markets: (1) complexities of the assets underlying investment securities traded in financial markets and of the means of originating those assets; (2) complexities of those investment securities themselves; and (3) complexities of those financial markets, which operate as systems.⁶⁹ Understanding these levels of complexity sometimes challenges experts at even the most sophisticated financial firms.⁷⁰ Administrative agencies that lack that expertise are even more challenged to understand these levels of complexity.⁷¹

REGULATION 3, 6 (Elizabeth E. Bailey ed., 1987). *See also* Edward J. Kane, Hair of the Dog that Bit Us: The Insufficiency of New and Improved Capital Requirements 6 (Aug. 11, 2014) (unpublished manuscript), available at <https://www2.bc.edu/edward-kane/HAIR%20OF%20THE%20DOG%20THAT%20BIT%20US.pdf> (observing that “[i]n the metagame of controlling regulation-induced risk-taking, regulators are outcoached, outgunned, and always playing from behind”).

68. Eric J. Pan, *Understanding Financial Regulation*, 2012 UTAH L. REV. 1897, 1934, 1934 n.167 (2012); *See also id.* at 1934 (observing that “[h]iring and retaining knowledgeable and experienced personnel is a key component of a regulator’s efforts to manage the flow of information to the extent skilled personnel permits regulators to develop independent capacity to evaluate and analyze developments in the financial markets”).

69. Schwarcz, *supra* note 1, at 216–36.

70. *Cf.* Steven L. Schwarcz, *Disclosure’s Failure in the Subprime Mortgage Crisis*, 2008 UTAH L. REV. 1109, 1113–15 (2008) (arguing that although the disclosure documents describing complex asset-backed securities generally complied with federal securities law, investors did not fully understand those securities or their risks); Schwarcz, *supra* note 1, at 243 (observing that even the most sophisticated investors lost money in the recent financial crisis).

71. *Cf.* THE BOSTON CONSULTING GROUP, U.S. SECURITIES AND EXCHANGE COMMISSION: ORGANIZATIONAL STUDY AND REFORM 53–54 (Mar. 10, 2011), available at 2011 WL 830339 (observing that the SEC’s senior management considers the SEC’s staff analytical capabilities to be only average or even below, and attributing that to the SEC’s relatively flat budget and its resulting hiring difficulties); Howell E. Jackson, *Variation in the Intensity of Financial Regulation: Preliminary Evidence and Potential Implications*, 24 YALE J. REG. 253, 273 (2007) (finding that the regulatory budget per staff member indicates the staff quality).

III

REGULATORY CONSEQUENCES OF THE INFORMATION ASYMMETRY

Only two scholars have previously studied this type of information asymmetry between financial regulators and industry. Their views on its consequences have been dramatic though cursory:

Following the crises of 1930 through 1933 and 2007 through 2008, regulators have been blamed for lax oversight. In retrospect, it is clear that regulators did not have the human capital to keep up with the financial industry, and to understand it well enough to be able to exert effective regulation. Given the wage premia that we document, it was impossible for regulators to attract and retain highly skilled financial workers, because [regulatory agencies] could not compete with private-sector wages.⁷²

Any explanation of consequences, however, should be more nuanced because financial regulation by administrative agencies is not merely one-dimensional but encompasses rulemaking, monitoring, and enforcement.⁷³ To understand the consequences of the information asymmetry, consider how that asymmetry could impact administrative-agency rulemaking, monitoring, and enforcement.

A. Consequences to Rulemaking

In the context of financial regulation, it has been argued that “[w]here the budgets are stronger and the staffing deeper, the agency can write more nuanced, tailored rules.”⁷⁴ The logic of that argument appears to be that the regulatory agency thereby has a sufficient number of “trained people” to apply the rules.⁷⁵ That argument, however, can also be supported by observing that the better regulators understand financial innovations, the better they can promulgate rules to curb harmful innovations.⁷⁶ Absent a clear understanding,

72. Thomas Philippon & Ariell Reshef, *Wages and Human Capital in the U.S. Financial Industry: 1909–2006*, at 31 (Nat’l Bureau of Econ. Research Working Paper No. 14644, 2009) (citations omitted). Philippon and Reshef thus argue that the income disparity “provides an explanation for regulatory failures.” *Id.* Other scholars have not studied but merely alluded to an information asymmetry between financial regulators and industry due to intellect. *See, e.g.*, Bond & Glode, *supra* note 32, at 2540 (observing a criticism that, “bluntly put, financial regulators are not as smart as the bankers and traders they are charged with overseeing.”).

73. Professor Eric Pan divides what I call “monitoring” into two functions: “supervision” and “certification.” Pan, *supra* note 68, at 1909. He defines “supervision” as a regulator’s “monitoring, assessment, and guidance of an entity’s efforts to meet its regulatory obligations.” *Id.* at 1911. He defines “certification” as “the substantive evaluation and approval of products or services by the regulator,” such as licensing and registration. *Id.* at 1914. My term “monitoring” includes these functions other than approval of financial products or services. Financial regulation in the United States does not currently enable regulators to approve or disapprove financial products per se, other than by issuing administrative rules or regulations governing those products—which would be included in the category of rulemaking.

74. Howell E. Jackson & Mark J. Roe, *Public and Private Enforcement of Securities Laws: Resource-Based Evidence*, 93 J. FIN. ECON. 207, 235 (2009).

75. *Id.*

76. *Cf. id.* (observing that “a higher budget and more staffing facilitate the regulatory agency being able to write, revise, and enforce better, more sophisticated rules”).

regulators might not only fail to promulgate adequate rules; they also might misinterpret the innovations and promulgate rules that are harmful.⁷⁷

The tendency to promulgate harmful rules might be heightened if regulators lack good judgment. In that context, it might be interesting to explore whether the income disparity creates another type of “information” asymmetry: one in which some regulators have good technical intellect but lack good judgment. In my experience, the financial industry strives to hire, and pays dearly for, employees who have both good technical intellect and good judgment. Administrative agencies might well seek to hire at least some employees with good technical intellect; but the pool of those employees who also have good judgment and are willing to work for low government pay will be small. That might help to explain why many of the bright financial regulators I have met tend to be very narrow and rigid, seeing problems in black and white and often lacking the flexibility to try to see others’ perspectives.

B. Consequences to Monitoring

As explained, this information asymmetry can prevent regulators from fully understanding financial innovations and products.⁷⁸ Absent that understanding, they might fail to promulgate adequate rules and might even promulgate harmful rules.⁷⁹ That absence may also have monitoring consequences—that regulators will be unable to effectively monitor financial innovations and products. Professor Pan, for example, argues that with additional resources administrative agencies can “hire better skilled and more experienced personnel” who can “review more carefully new [financial] products and services”⁸⁰

That is not to say that reducing the income disparity between regulators and industry could eliminate information-based market failures. Not only regulators but also industry participants—including rating agencies, monoline insurance companies, and even the most sophisticated and largest institutional investors—either missed or did not adequately take into account early warning signs of the recent financial crisis.⁸¹ Moreover, human nature might lead some regulators to overrely on information provided by financial firms that offer, or at least

77. Cf. Hu, *supra* note 66, at 1508 (arguing that regulators who succeed in gaining current industry information on financial innovation may not be sophisticated enough to interpret and thus may misinterpret that information).

78. See *supra* notes 69–77 and accompanying text.

79. See *supra* text accompanying note 77.

80. Pan, *supra* note 68, at 1932. He also observes that additional resources would enable financial regulators to “invest in more sophisticated information processing and surveillance systems” *Id.*

81. See Schwarcz, *supra* note 1, at 243. In many cases, moreover, information failures were caused not by information asymmetry but by mutual misinformation: by retaining residual risk portions of certain complex securitization products they were selling, underwriters may actually have fostered false investor confidence, contributing to the recent financial crisis. See *id.* at 241–42 (discussing mutual misinformation).

purport to offer, transparency, and with which the regulators have developed longstanding relationships. Nonetheless, reducing the income disparity should at least help to reduce the information asymmetry and its consequences.

C. Consequences to Enforcement

Because of the sheer number of regulatory personnel needed to pursue enforcement actions, enforcement—more than rulemaking and monitoring—turns as much on the quantity as on the quality of regulators. Professor Pan, for example, argues that additional resources will also enable administrative agencies to hire personnel who can “pursue more enforcement actions.”⁸² Professors Jackson and Roe similarly argue that “more resources [in the form of “high budgets and staffing”] facilitate regulatory investigations, [thereby] making it easier for [an] agency to bring enforcement actions”⁸³

Nonetheless, “much public enforcement is done informally” by regulators, such as through “a regulator’s raised eyebrow.”⁸⁴ “[I]nformal public enforcement” of this type “requires highly skilled staffers.”⁸⁵ Furthermore, greater regulatory expertise should enable administrators to better enforce highly sophisticated rules and regulations.⁸⁶

In summary, the two-to-one income disparity between the financial industry and its regulators creates an information asymmetry that can cause regulatory failures in rulemaking, monitoring, and enforcement. That helps to explain why financial regulation is so often inadequate. Next consider how the information asymmetry could be mitigated.

IV

ADDRESSING THE INFORMATION ASYMMETRY

The information asymmetry could be addressed directly by reducing the information disparity. It also could be addressed indirectly. First, consider the direct approach.

A. Reducing The Income Disparity

The information asymmetry that results from the income disparity between regulators and the financial industry could be mitigated most directly by reducing this disparity. That could be done in at least two ways: by increasing regulators’ compensation, and by limiting financial-industry compensation.

82. Pan, *supra* note 68, at 1932.

83. Jackson & Roe, *supra* note 74, at 235.

84. *Id.* (referring to this type of informal enforcement in England and to informal “administrative guidance” in Japan).

85. *Id.*

86. *Cf. id.* (observing that a “higher budget and more staffing” should “facilitate the regulatory agency being able to . . . enforce . . . more sophisticated rules”).

1. Increasing Regulators' Compensation

In an ideal universe, the income disparity would be addressed directly by increasing regulators' compensation. The ability of government to do this is, of course, highly subject to political considerations. In the United States, that would depend not only on increasing the budgets of financial regulatory agencies but also on further exempting employees of those agencies from the general schedule and other applicable per-person-pay limitations.⁸⁷

Some scholars argue that attracting more able workers into the public sector (whether through increasing income or otherwise) would be inefficient, suggesting that the return on talent is higher in the private sector.⁸⁸ That may or may not generally be true, but it is unlikely to be true for financial regulation so long as regulators suffer from an information asymmetry that can prevent them from effectively monitoring and regulating financial innovations that might create systemic externalities.

It therefore ought to be efficient to increase regulators' compensation as needed to reduce that information asymmetry. That raises the question, though, of what level of increase is needed. Although not a controlled experiment, the experience of Singapore may be instructive. Singapore pays its government regulators⁸⁹ incomes that match or exceed those of comparable private-sector workers.⁹⁰ Its officials have publicly stated that pay should not be a reason not to join, or to leave, a Singaporean regulatory agency.⁹¹ Thus, the salaries for employees of the Monetary Authority of Singapore (MAS), the principal Singaporean supervisor and regulator of the financial industry, is pegged to financial-industry salaries.⁹² This appears to be done by reviewing the top salaries of a range of financial professionals and by calculating an average

87. Cf. *supra* notes 7–9 and accompanying text.

88. Cf. Francesca Barigozzi, Nadia Burani & Davide Raggi, *The Lemons Problem in a Labor Market with Intrinsic Motivation: When Higher Salaries Pay Worse Workers*, (Quaderni DSE Working Paper No. 883, 2014), available at http://papers.ssrn.com/sol3/papers.cfm?abstract_id=2271987 (arguing that when workers are motivated, inefficiencies due to adverse selection are mitigated).

89. Some suggest this pay parity applies not to all Singaporean government regulators but just to ministers and high level officers. Sajid Anwar & Choon Yin Sam, *Private Sector Corporate Governance and the Singaporean Government-Linked Corporations*, 7 INT'L PUB. MGMT. REV. 66, 80 (2006) (citing Vito Tanzi, *Corruption Around the World: Causes, Consequences, Scope, and Cures* 573 (IMF Working Paper No. WP/98/63, 1998)).

90. Doha Abdelhamid & Laila El Baradei, *Reforming the Pay System for Government Employees in Egypt* 26 (Working Paper No. 151, 2009). In the final published version of this paper, however, the part on Singapore was omitted. See Doha Abdelhamid & Laila El Baradei, *Reforming the Pay System for Government Employees in Egypt*, 11 INT'L PUB. MGMT. REV., no. 3, 2010, available at <http://www1.imp.unisg.ch/org/idt/ipmr.nsf/>.

91. See Seth Mydans, *Singapore Announces 60 Percent Pay Raise for Ministers*, N.Y. TIMES, April 9, 2007, http://www.nytimes.com/2007/04/09/world/asia/09iht-sing.3.5200498.html?_r=0 (quoting Defense Minister Teo Chee Hean).

92. MONETARY & CAPITAL MKTS. DEP'T, INT'L MONETARY FUND, SINGAPORE: DETAILED ASSESSMENT OF IMPLEMENTATION—IOSCO OBJECTIVES AND PRINCIPLES OF SECURITIES REGULATION 48–49 (Dec. 2013), available at <http://www.imf.org/external/pubs/ft/scr/2013/cr13344.pdf>.

income to be applied to financial regulators.⁹³

The International Monetary Fund believes that the resulting high salaries have enabled MAS not only to attract and retain regulatory staff with excellent qualifications and expertise⁹⁴ but also to achieve a high degree of compliance with the principles of the International Organization of Securities Commissions (IOSCO).⁹⁵ The resulting effectiveness of Singapore's regulatory system is believed to have helped establish Singapore as a regional financial center.⁹⁶

Singapore thus appears to be a successful example of directly addressing the income disparity, and resulting information asymmetry, by increasing regulators' compensation. But whether the Singaporean attempt at income parity could be viable in other countries, including the United States, is unclear. Even given the political will to achieve that parity, the financial industry would be motivated and—so long as finance is highly profitable—able to match and exceed any public-sector raises that would aim to draw away significant talent. Singapore's success to the contrary may be bound up with a regulatory economy-of-scale or another country-specific explanation. That would help to explain the puzzling evidence suggesting that, notwithstanding Singapore's income parity between financial regulators and industry, its per-person regulatory costs are still slightly lower than those of the United States.⁹⁷

Finally, a variant on increasing regulators' compensation would be to pay regulators based on their performance. Professors Henderson and Tung, for example, partly blame the lack of incentive, which performance-based pay could help create, for the failure of bank examiners to act aggressively to prevent excessive risk during the recent financial crisis.⁹⁸ They argue that compensating bank examiners based on performance would help to reduce future bank failures.⁹⁹

Performance-based pay for regulators is an interesting idea, but whether it would work in practice is yet to be seen—although one could view bonuses paid to regulators as a form of performance-based pay.¹⁰⁰ Henderson and Tung agree

93. Abdelhamid & Baradei, *supra* note 90, at 26.

94. MONETARY & CAPITAL MKTS. DEP'T, INT'L MONETARY FUND, *supra* note 92, at 48.

95. *See id.* at 5.

96. Joseph E. Stiglitz, *The Role of the State in Financial Markets*, in PROCEEDINGS OF THE WORLD BANK ANNUAL CONFERENCE ON DEVELOPMENT ECONOMICS 1993: SUPPLEMENT TO THE WORLD BANK ECONOMIC REVIEW AND THE WORLD BANK RESEARCH OBSERVER 19, 36 (1993).

97. *See, e.g.*, Jackson, *supra* note 71, at 291 (finding no material difference between the per-person costs of U.S. and Singaporean financial regulators, where the per-person cost of financial regulators was, at the time of his research, \$146,515 in Singapore, \$154,840 in the United States, and \$175,644 in Ireland).

98. *See* M. Todd Henderson & Frederick Tung, *Pay for Regulator Performance*, 85 S. CAL. L. REV. 1003, 1003 (2012).

99. *Id.* (arguing that the performance-based pay should be a “debt-heavy mix of phantom bank debt and equity, as well as a separate bonus linked to the timing of the decision to take over a bank”).

100. *See supra* note 25 and accompanying text (observing that administrative agencies pay, albeit rarely, limited bonuses to regulators). *See also* Henderson & Tung, *supra* note 98, at 1013 (observing that “[b]ank regulatory agencies have begun using bonuses ostensibly tied to performance”).

that the “key” to this method’s success would be “finding metrics for measuring ‘good’ and ‘bad’ performance in government, and deploying them in ways that will not make things worse.”¹⁰¹ They argue that this method should be feasible, at least for compensating bank examiners.¹⁰² Even if they are correct, however, the rapid rise of disintermediation and shadow banking—in which nonbanking firms and financial markets increasingly replace banks as the source of financial intermediation¹⁰³—is diminishing the importance of the bank examiner’s job in the overall task of financial regulation.¹⁰⁴

2. Limiting Financial Industry Compensation

A further way to mitigate the income disparity and, hence, the information asymmetry might be to legally limit compensation in the financial industry. A populist movement towards limiting financial-industry compensation has gained momentum in recent years, as a reaction (among other things) to the huge bonuses paid to senior financial executives while shareholders of their firms faced losses.¹⁰⁵

Limiting financial industry compensation might, however, have unintended consequences: “Experience has [] found that direct government control of pay creates a host of perverse and unintended consequences.”¹⁰⁶ Furthermore, at least in the United States, there is a strong historical bias in favor of free markets and against government restriction of private-sector compensation. And even if there otherwise is political will to impose such restrictions, it might not extend to restrictions beyond the highest-paid executives;¹⁰⁷ and those executives are not the ones for whom the income disparity creates the most troublesome information asymmetry.¹⁰⁸

101. Henderson & Tung, *supra* note 98, at 1010.

102. *Id.*

103. See generally Steven L. Schwarcz, *The Governance Structure of Shadow Banking: Rethinking Assumptions About Limited Liability*, 90 NOTRE DAME L. REV. 1 (2014) (arguing that shadow banking’s transformation of the financial industry calls for redesigning limited liability in the corporate governance context).

104. In 2011, the size of the shadow-banking system was estimated at \$67 trillion worldwide. FIN. STABILITY BD., GLOBAL SHADOW BANKING MONITORING REPORT 3 (2012); cf. ZOLTAN POZSAR ET AL., FEDERAL RESERVE BANK OF NEW YORK STAFF REPORTS, NO. 458: SHADOW BANKING 4–5 (2010) (arguing that shadow bank financing appears to dwarf traditional bank financing).

105. See, e.g., Louise Story & Eric Dash, *Bankers Reaped Lavish Bonuses During Bailouts*, N.Y. TIMES, July 31, 2009, at A1, available at <http://www.nytimes.com/2009/07/31/business/31pay.html> (discussing criticism aimed at banker’s compensation).

106. Martin Wolf, *Why and How Should We Regulate Pay in the Financial Sector?*, in THE FUTURE OF FINANCE AND THE THEORY THAT UNDERPINS IT 235, 238 (2010), available at <http://harr123et.files.wordpress.com/2010/07/futureoffinance-chapter91.pdf>.

107. Cf. *supra* note 105 and accompanying text (observing that the populist backlash concerns huge bonuses paid to senior financial executives).

108. Cf. Steven L. Schwarcz, *Conflicts and Financial Collapse: The Problem of Secondary-Management Agency Costs*, 26 YALE J. REG. 457, 458–59 (2009) (observing that secondary managers structure, sell, and invest in financial market securities on behalf of their firms).

B. Other Measures

One could also consider other measures that do not address the income disparity per se but that nonetheless might help reduce the information asymmetry or its consequences. These measures could include increasing the nonmonetary attraction of public-sector regulatory jobs, reducing the information asymmetry by blunt force, and accepting the information asymmetry and regulating to mitigate its consequences.

1. Increasing the Nonmonetary Attraction of Public-Sector Regulatory Jobs

The nonmonetary attraction of public-sector regulatory jobs could be increased, at least in theory, by making those jobs more challenging and by increasing regulatory prestige.¹⁰⁹ Although “pay can be an important factor in determining person-job fit as individuals have financial needs that they expect their jobs to help satisfy,” individuals “often have to make [employment] decisions that require weighing trade-offs between financial rewards and other desired job characteristics.”¹¹⁰

To some extent, the European training of judges might provide a model for increasing regulatory prestige. In continental Europe, “the tendency is to appoint young, easily trainable law graduates willing to accept a prestigious and stable career, if not one as well paid as that of a highly successful attorney or consultant.”¹¹¹ French judges, for example, are recruited nationally through competitive examinations to attend the National School for the Judiciary (ENM), which prepares them for a lifetime civil-service career.¹¹²

2. Reducing the Information Asymmetry by Blunt Force

There are several ways that the information asymmetry could be reduced by blunt force, including by standardizing financial products, by increasing specialization among regulators, and by paying third-party experts to try to reduce the asymmetry. The Dodd–Frank Act effectively utilizes the first approach, for example, by requiring many derivatives transactions to be cleared through clearinghouses,¹¹³ which generally require a high degree of standardization in the derivatives that they clear.¹¹⁴

But standardization can backfire. Dodd–Frank’s clearinghouse requirement

109. Cf. Gabris & Simo, *supra* note 54, at 49 (arguing that if public-sector regulatory jobs were made more challenging and monetarily appealing, they would draw good recruits). The italicized language undercuts their argument as applied to this article, however.

110. Christensen & Wright, *supra* note 59, at 728.

111. Luis Muniz-Arguelles & Migdalia Fraticelli-Torres, *Selection and Training of Judges in Spain, France, West Germany, and England*, 8 B.C. INT’L & COMP. L. REV. 1, 2 (1985).

112. *Id.* at 5 n.14, 11.

113. Dodd–Frank Wall Street Reform and Consumer Protection Act, Pub. L. No. 111-203 § 723(a)(3) (2010).

114. This can become a little circular, though, because Dodd–Frank includes an exception for derivatives that a clearinghouse will not accept for clearing. See *id.* (requiring clearing through a clearinghouse “if the swap is required to be cleared”).

might inadvertently increase systemic risk by concentrating derivatives exposure at the clearinghouse level.¹¹⁵ And the overall economic impact of standardization is unclear because “standardization can stifle innovation and interfere with the ability of parties to achieve the efficiencies that arise when firms craft financial products tailored to the particular needs and risk preferences of investors.”¹¹⁶

An approach similar to standardization would be to regulate financial innovation so heavily that industry would not benefit from having more qualified workers and thus would pay them less. Research has found “a very tight link between deregulation and human capital in the financial sector.”¹¹⁷ Thus, “regulation inhibits the ability to exploit the creativity and innovation of educated and skilled workers” in the financial industry, whereas deregulation “unleashes creativity and innovation and increases demand” for those workers.¹¹⁸ This approach would therefore also be risky because discouraging innovation and creativity could have myriad adverse and unanticipated consequences.

Another possible way to try to reduce the information asymmetry would be to increase regulatory specialization. Specialization might lead to adverse consequences, however, potentially making the regulators’ focus so narrow that, over time, they will miss the dynamically changing bigger picture; or making regulators’ jobs less interesting, thereby further increasing the information asymmetry by discouraging workers to apply for regulatory positions.

The limited experience with regulatory specialization has shown mixed results, as exemplified by the World Bank’s Financial Sector Assessment Program (FSAP). In 1995, the World Bank formed a team of financial specialists to try to better diagnose problems within financial systems.¹¹⁹ At the outset, the team was able to synergistically capitalize on the knowledge added by each individual specialist.¹²⁰ Over time, however, the specialists focused increasingly on their specific subdisciplines.¹²¹

Yet another approach would be to pay third-party experts to try to reduce the information asymmetry. But the widely publicized failure of credit-rating agencies to accurately rate mortgage-backed securities, and concerns that such

115. See Iman Anabtawi & Steven L. Schwarcz, *Regulating Systemic Risk: Towards an Analytical Framework*, 86 NOTRE DAME L. REV. 1349, 1395 (2011) (observing that “central clearing merely shifts counterparty risk to a clearinghouse, reducing that risk only to the extent that clearinghouses can manage risk better or are more creditworthy than individual firms”).

116. Steven L. Schwarcz, *Controlling Financial Chaos: The Power and Limits of Law*, 2012 WIS. L. REV. 815, 820 (2012).

117. Philippon & Reshef, *supra* note 72, at 4.

118. *Id.*

119. Gerard Caprio, Jr., *Financial Regulation in a Changing World: Lessons from the Recent Crisis 6* (The Inst. for Int’l Integration Studies, Discussion Paper No. 308, 2009), available at <https://www.tcd.ie/iis/documents/discussion/pdfs/iisdsp308.pdf>.

120. *Id.*

121. *Id.*

failure was a causal factor in the financial crisis, raise questions as to the efficacy—or at least of the political acceptability—of this type of approach.¹²²

3. Accepting the Information Asymmetry and Regulating To Mitigate its Consequences

Finally, another possible response would be to accept the reality of the income disparity, and hence the resulting information asymmetry, and to regulate in a way that mitigates its consequences. The main consequence of the information asymmetry is that financial regulation will be insufficient to prevent all financial failures. Professor Anabtawi and I have argued that *ex ante* (preventative) financial regulation is, for various reasons, inherently insufficient to prevent all financial failures, and thus financial failures are inevitable.¹²³ Therefore, any financial regulatory strategy should also include *ex post* (ameliorative) regulation.¹²⁴ Such regulation could include, for example, government-imposed financial safety nets and mechanisms to disrupt the transmission of systemic failure.¹²⁵ That same strategy should help to address financial failures that result from the information asymmetry.

V

CONCLUSIONS

The extraordinary income disparity between financial regulators and their industry counterparts differentiates financial regulation from other forms of regulation. At each level, financial-industry employees make at least twice as much as financial regulators (in contrast to nonfinancial industry employees, who make on average only twenty-five percent more than their regulatory counterparts).¹²⁶ This huge income disparity undermines the ability of financial regulatory agencies to hire competitively, in turn driving a significant difference in employee intellect and abilities.

These attributes are especially critical, however, in order to understand increasingly complex financial products and markets. The resulting information asymmetry between financial regulators and industry can lead to regulatory

122. See, e.g., Sophia Grene, *Big Three Credit Rating Agencies Under Fire*, FINANCIAL TIMES, May 4, 2014, <http://www.ft.com/intl/cms/s/0/4140e388-cfc1-11e3-9b2b-00144feabdc0.html#axzz3K23McdO2> (discussing the perceived culpability of credit-rating agencies in the recent financial crisis).

123. Iman Anabtawi & Steven L. Schwarcz, *Regulating Ex Post: How Law Can Address the Inevitability of Financial Failure*, 92 TEX. L. REV. 75, 93–96, 130–31 (2013).

124. *Id.* at 130–31 (explaining why this two-pronged regulatory approach is needed).

125. *Id.* at 102–22.

126. This comparison is necessarily imprecise because it uses general-industry data to approximate nonfinancial industry data. See *supra* note 6 and accompanying text (comparing federal government and private-sector pay for similar jobs). Among other sources of imprecision, the general-industry data already include, and thus the income disparity based on those data is increased by, financial-sector data. Accordingly, the actual income disparity between nonfinancial industry employees and nonfinancial regulatory employees is probably smaller than twenty-five percent. And that income disparity (between nonfinancial industry employees and nonfinancial regulatory employees) may be even smaller still for the reasons discussed above. See *supra* note 6.

failures at all levels, including rulemaking, monitoring, and enforcement. These failures help to explain why financial regulation is so often inadequate.¹²⁷

Reducing the income disparity would be a politically challenging, if not impossible, task. Even if the government were to attempt to increase the incomes of financial regulators to private-sector levels, the financial industry would be motivated—and because it is highly profitable, it may well (at least outside Singapore¹²⁸) be able—to match and exceed any income increases that were to draw away significant talent. Another potential response is to focus more resources on ex post financial regulation, thereby mitigating the consequences of financial failure. That approach recognizes that, for a range of reasons, including the income disparity, financial failures are inevitable. There are other potential responses to attempt to correct regulatory failures resulting from the income disparity (and resulting information asymmetry), but they are even more “second best.”

This article’s focus is new. Although other scholars have studied information asymmetries between regulators and the regulated, they have focused almost exclusively on information acquisition and product-development lag time. That focus is limited to regulators *obtaining* information. In contrast, this article focuses on the information asymmetry that results from differences in intellect and abilities between regulators and the regulated. That focus goes not to obtaining information; instead, it goes to the ability of financial regulators to *process* the information once obtained.

127. There are of course other possible explanations of why financial regulation is so often inadequate, including other income-related explanations. Professor White suggests, for example, that “if high returns in the financial industry are associated with risk-taking[,] higher wages will attract more risk-takers to the financial industry and that may make potential problems in the industry worse.” E-mail from Eugene N. White, Professor of Economics, Rutgers University, to the author (Feb. 9, 2014) (on file with author). Professor Lastra and others have written of the problem of bonuses based on short-term performance, which can motivate bankers to engage in excessively risky transactions. See, e.g., Luis Garicano & Rosa M. Lastra, *Towards a New Architecture for Financial Stability: Seven Principles*, 13 J. INT’L ECON. L. 597, 618 (2010). And I have written about conflicts of interest resulting from short-term compensation of secondary managers of financial firms. See Schwarcz, *supra* note 108, *passim*.

128. See *supra* text accompanying notes 97–98.