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The "Missing Nobels"

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Abstract

Prestigious prizes can shape scientists' career decisions, effort allocation, and field entry, yet the structure of recognition has not kept pace with modern discovery. We screen roughly 2,700 international scientific prizes and rank the 99 most prestigious using an index of expert survey ratings, demand for prize information, media news mentions, prize money, and longevity. Three patterns stand out. First, half of today's top prizes were first given after 1980 and one-third after 2000, showing new awards can rise to prominence. Second, recognition is unevenly distributed across fields: physics, life sciences, and mathematics are heavily recognized relative to field size, while computer science, engineering, psychology, and the social sciences are under-served. Third, incentive design is narrow: only three of the top 99 prizes target early-career scientists, and most lack mechanisms to promote future research. These findings inform the design of recognition systems that better align with contemporary science.

JEL classification

O31, J24

Keywords

scientific prizes, recognition systems, innovation policy

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1 Introduction

In 1973, two computer scientists, Vinton Cerf and Robert Kahn, set out to solve a problem: how could machines on different networks talk to one another? Their solution, a set of rules called TCP/IP, became the invisible architecture of the Internet. Today it connects nearly every device, lab, and library on Earth. Yet no Nobel honors it. The work was too applied for Physics and outside the institutional domains of Medicine or Economics—fields the Nobel canonized long before the information age began. Cerf's and Kahn's contributions were eventually recognized with the prestigious Turing Award, but only in 2005. Their story illustrates gaps in the structure of recognition prizes—in terms of field mismatches and temporal delays—and suggests that the prize landscape could be improved to better serve scientific progress.

This paper takes the "Missing Nobel" idea as its starting point. It offers a novel systematic mapping of the landscape of prestigious scientific prizes and uses that map to diagnose institutional gaps: Which fields receive the kind of widely legible recognition that prizes provide? Which career stages are rewarded? What forms do rewards take, and are they structured to accelerate future research rather than merely commemorate past work? To answer these questions, we screen roughly 2,700 international scientific prizes and then select and rank the 99 most prestigious.

Studying the prizes landscape is important as prestigious prizes can shape how science is seen, funded, and pursued. Prizes function as both incentives—altering effort and risk-taking—and signals, updating beliefs about quality for funders, institutions, and the public. They amplify certain discoveries, canonize particular disciplines, and turn recognition into reputation and resources. After an award, topics associated with a scientific prize grow faster and prizewinners' earlier publications also gain more citations (Jin et al., 2021; Azoulay et al., 2014; Chan et al., 2013). Because prize-giving institutions face reputational consequences for poor choices, these signals can carry information beyond what bibliometric indicators alone reveal: Turing Award and Nobel Prize laureates are rarely among the top-1% most-cited researchers in their fields (as we verify in our data); what distinguishes prizewinners is not volume of output but unusually innovative combinations of ideas (Tian et al., 2025). Scientists in fields or career stages that are underserved by such prizes may lack these incentives and signals. Yet without a systematic map of where recognition concentrates and where it is absent, we cannot assess whether the signals guiding scientists' career decisions are well-calibrated to the current structure of science.

To identify which prizes belong in our landscape, we build on previous work by Meho (2020), Zheng and Liu (2015) and Jiang and Liu (2018). Throughout, we adopt a broad definition of what a recognition "prize" may be: Besides prizes associated with a cash value, we also consider other honors such as prestigious fellowships or invitations to deliver prestigious lectures. We focus on science and technology prizes. We include a prize in our list if it clears at least one of four bars: appearing on three or more authoritative lists compiled by governments and ranking organizations; receiving high average ratings in the expert surveys of Zheng and Liu (2015) and Jiang and Liu (2018); having recent winners who are predominantly among the top 1% most-cited researchers in their fields; or averaging at least 40 daily Wikipedia page views. We apply these selection criteria to a list of roughly 2,700 prizes, but, to avoid country-specific biases, we limit our attention to prizes open to scientists worldwide. Our method identifies the 99 most prestigious international prizes in science and technology.

To rank prizes, we build a novel measure of prize prestige. We start with five prestige indicators: expert survey ratings (Zheng and Liu, 2015; Jiang and Liu, 2018), which capture peer esteem; Wikipedia page views, which capture online demand for prize information; media news mentions (from the MediaCloud database), which capture broader visibility; monetary value, which proxies institutional investment; and prize longevity, which proxies track record. Under the assumption that prize prestige explains most of the variance in these indicators, we extract their first principal component and use it as our prestige measure. Consistent with this hypothesis, this first principal component loads positively on every indicator and explains 49% of the total variance. The subsequent components, by contrast, capture trade-offs such as old-but-modest versus young-but-lavish prizes. This yields a transparent, reproducible prestige measure that allows direct comparison across disciplines.

The resulting map of scientific recognition reveals three patterns. First, prestige is being remade in real time: Half of the top 99 prizes were created after 1980 and one-third after 2000. Aggregate annual purses have grown even faster—doubling since 2000—showing that tradition is not strictly required for ascendance. Prestige, though path-dependent, remains contestable, but creating new prestigious prizes seems increasingly expensive.

Second, coverage across fields is uneven: There is wide variation in how much recognition prizes provide to a field, even after normalizing by field size. To measure how much recognition each field receives, we assign each recent prizewinner (2015–2024) to a field based on their full publication record. We then compare the number of recognitions per field against measures of field size. As our two main measures of field size, we use the number of research academics at the top 150 U.S. universities and the annual flow of new U.S. PhDs—these proxy for the distribution of social work and investment across fields, or the number of potential prizewinners. Physics, the life sciences, and mathematics are consistently the most recognized fields under both denominators; computer science, engineering, and the social sciences (excluding economics) are consistently under-served. Using US federal science funding shares or worldwide publication counts to measure field size, we find similar unevenness. This unevenness has potential consequences for scientific progress, as there might be lack of certain incentives, and as prizes make scientific contributions legible across disciplinary boundaries. For instance, prizes can shape what non-scientists see as the most important disciplines and findings, affecting the popularity of public funding decisions and young people's aspirations. Prizes can also inform scientists about what findings and methods are relevant in adjacent disciplines, allowing new methods to diffuse into a discipline and leading to new breakthroughs (Krauss, 2024). Fields with few or no prizes do not produce these widely legible signals.

Third, the incentive design of recognition prizes is narrow and backward-looking. Only three of the top 99 awards target early-career researchers (defined as prizes imposing any temporal restriction on eligibility, such as an age limit or a focus on recent work). Early-career prizes are arguably more socially valuable than late-career awards because they can function simultaneously as pull incentives—motivating effort through the prospect of status (Merton, 1973; Partha and David, 1994; Stephan, 2010; Hill and Stein, 2025)—and as push incentives, easing resource constraints at the career stage when scientists are most productive (Bjørk, 2019) yet most funding-constrained (Daniels, 2015). Beyond who is recognized, prize structures are almost completely backward-looking: of the 91 prizes with a monetary component, only four of them impose any conditions on how the money is spent. The remainder are one-time lump-sum payments with no link to future research output, mentorship, or translational milestones.

These findings suggest that many parts of the global prize ecosystem have evolved more slowly than science itself. By systematically mapping it, we identify where the "Missing Nobels" lie and how the design of recognition systems could better align incentives with contemporary science, and also produce richer signals of research quality.

This paper builds on and extends two strands of prior research. First, we speak to a literature on inducement prizes and incentives for research. A large literature studies inducement prizes—rewards offered ex ante for solving a specified problem. From the eighteenth-century Longitude Prize to modern technology challenges, such contests have been analyzed as mechanisms to direct R&D effort toward socially valuable goals (Kalil, 2006; Kremer and Williams, 2010; Williams, 2012). A central lesson of this literature is that design matters: prize effectiveness depends on how problems are defined, how broadly eligibility is drawn, and whether the prize structure aligns with the incentives of potential contestants (Brunt et al., 2012; Khan, 2015). Recognition prizes—awarded ex post for exceptional achievement—have received far less formal analysis, despite serving distinct and arguably broader functions (e.g., they signal quality to funders, employers, and the public; they can shape which fields attract talent). By systematically mapping and ranking recognition prizes, this paper applies the design perspective of the inducement-prize literature to the ex post domain—asking not only whether recognition prizes work, but whether the current system recognizes the right fields, career stages, and forms of achievement.

Second, we build on previous work on the measurement and mapping of scientific prestige. Zheng and Liu (2015) and Jiang and Liu (2018) relied primarily on expert surveys benchmarked against the Nobels; Meho (2020) subsequently combined survey rankings with objective criteria to propose prize-based metrics for university rankings. Existing rankings remain limited in several ways. Qualitative lists, such as the one prepared for the International Congress of Distinguished Awards, are subjective and difficult to update or extend.[1] Most university-ranking systems that use prizes treat them as binary indicators—counting whether an institution has winners from a fixed list of prizes, without weighting by prestige. The only university ranking that weights prizes by prestige is MosIUR, which uses weights from prior surveys (Zheng and Liu, 2015). We extend this literature by consolidating multiple data sources into a comprehensive list of international recognition prizes and a continuous prestige index, and, most importantly, by treating the recognition system itself as the object of analysis—rather than using prize prestige as a proxy for institutional quality.

The rest of the paper proceeds as follows. Section 2 describes data and methods. Section 3 reports results: the list, ranking, and how prizes cover the fields, career stages, and incentive designs. Section 4 discusses implications for prize design and science policy.

2 Data and Methods

We build on previous efforts to systematically identify prestigious academic prizes, particularly the methodology developed by Meho (2020). We apply our selection criteria to the roughly 2,700 prizes that either appear in previous listing efforts (Meho, 2020; Zheng and Liu, 2015; Jiang and Liu, 2018), appear in Wikipedia's lists of prizes, or appear in the list of prizes considered eligible for UK immigration, and identify the top 99 most prestigious academic awards using four complementary criteria.

2.1 Identifying recognition prizes

First, we consider seven authoritative lists of prestigious awards compiled by government agencies, university ranking organizations, and academic publications (Supplementary Table S5);

[1]The ICDA is a professional association for prize-giving organizations that maintains a roster of awards meeting its standards for administrative excellence.

prizes appearing in at least three of these lists meet this criterion (47 prizes). Second, we incorporate expert survey data from Zheng and Liu (2015) and Jiang and Liu (2018), who surveyed 2,567 prizewinners and 2,791 academic leaders, respectively; prizes qualify if they received an average importance rating of at least 0.5 relative to a Nobel Prize and appeared in at least one authoritative list (56 prizes). Third, we select prizes from the first two criteria whose winners are predominantly (more than 50%) among the top 1% most-cited researchers in their fields, as measured by the Clarivate Highly Cited Researchers list (55 prizes). Fourth, we collect data on Wikipedia page views from 2020 to 2023; prizes averaging at least 40 daily views qualify, with views for pages covering multiple prizes allocated proportionally based on monetary value (27 prizes).[2]

To focus on recurring scientific prizes of a truly international character recognizing individuals, we exclude prizes that:

- Have strict citizenship or national origin requirements
- Have only been given to individuals from or working in a single country in the last 10 years (or last 20 if given every two years)
- Did not distribute any awards in the past 10 years
- Lack accurate information on winners for the past decade (e.g., because there is no webpage for a prize or because information is very incomplete)
- Primarily recognize contributions in philosophy, education, or non-science fields
- Do not have systematic prizewinner selection criteria (e.g., a single individual selects the prizewinners, without an ex-ante specified scoring rule)
- Tend to recognize institutions rather than individuals

These criteria exclude widely recognized honors such as the MacArthur Fellowship (only given to residents or citizens) or the John Bates Clark Medal (only given to US-based researchers) in favor of describing a general and international picture of the recognition landscape.

2.2 Ranking prizes

To rank the prizes selected by our inclusion criteria, we combine five prestige indicators: expert survey ratings (Zheng and Liu, 2015; Jiang and Liu, 2018), Wikipedia page views, media news

[2] When a prize is only discussed in Wikipedia as a section of a larger page, we adjust page views by the share of the sections in the page dedicated to the prize.

mentions, prize age, and prize money. We extract a signal from these indicators using principal component analysis—the idea being that the major common factor behind those indicators is prize prestige, which is captured by the first principal component.

To construct the indicators, we take the logarithm of prize age, daily page views, media mentions, and prize money.[3] Media news mentions are measured as the number of unique news articles mentioning each prize name in the Media Cloud Online News Archive (Roberts et al., 2021) between January 2020 and December 2023, the same window used for Wikipedia page views. For each prize we queried the full archive (approximately 80,000 sources across 100+ countries) using exact-phrase searches on the prize name, with contextual Boolean AND terms added for ambiguous names (Supplementary Table S6). The pairwise correlations between our prestige indicators (Supplementary Table S2) show that media news mentions and Wikipedia page views are the most strongly correlated pair ($r = 0.77$), followed by expert survey ratings and page views ($r = 0.68$), while prize age and money per prize are negatively correlated ($r = -0.47$). That expert ratings—which reflect insider peer esteem—correlate strongly with Wikipedia and media visibility suggests that insiders and outsiders converge on which prizes matter, consistent with a single latent prestige factor rather than separate dimensions of popularity and academic regard. The five-indicator approach captures how prizes signal status both within and beyond the scientific community: expert ratings reflect peer esteem, Wikipedia visibility and media mentions capture broader public salience, while prize money and longevity proxy for institutional commitment and track record.

The first principal component of our normalized indicators explains 49% of total variance and loads positively on all five indicators, supporting a single-factor prestige interpretation; its weights are reported in Section 3.1. [4] The final prize ranking and tier system are derived by using the PCA weights to create a prestige index. We further classify prizes into three tiers. To do so, we first count how many yearly winners each prize has, on average. Summing the number of yearly winners for all listed prizes gives us the number of total recognition events generated by such prizes. Then, after ranking, if a prize accounts for some of the top 10% of recognition events, we assign that prize to Tier 1. Tier 2 includes the next 20%, and Tier 3 includes all remaining selected prizes.

[3]For daily page views, media mentions, and prize money, we arbitrarily add one before taking the log to avoid infinities. Prize money means the total cash value given to a certain contribution. It may include research funds and it may be shared by multiple co-prizewinners.

[4]For the 27 prizes lacking survey ratings, we predict missing values using available indicators and field information. Specifically, we regress survey ratings on quartile indicators of page views, prize age, and prize money, field fixed effects. We then apply a 50% discount to these predicted survey ratings, since we surmise there is some reason behind the fact that they were not listed in the survey to begin with.

2.3 Measuring Prize Density

To identify which fields are under- or over-supplied by top international prizes, we compare the supply of prizes in a field to two different proxies of field size. As our primary measure of field size, we use the number of research academics teaching in PhD programs at the top 150 U.S. universities (according to the 2019 US News ranking), drawing on faculty data from Angeli and Lowe (2026), who collected the universe of research academics in those programs and matched them to OpenAlex academic profiles.[5] Of the roughly 100,000 academics found, 87,000 are matched to an OpenAlex profile. Then, for each academic, we identify the OpenAlex subfield containing most of their publications. As a secondary measure of field size, we use the number of new PhDs produced in the U.S. in each field, extracted from the 2023 Survey of Earned Doctorates by the National Center for Science and Engineering Statistics. The data covers all research doctoral degrees, 99% of which are PhDs.

To calculate the number of prizes directed to each field, we list all prizewinners from 2015 to 2024 and also assign them to fields based on the subfield in which they have the most publications in OpenAlex. We then group the 252 OpenAlex subfields into 26 fields that are readily interpretable and that harmonize with the PhD student data (the secondary measure of field size). For instance, we group subfields that share substantial institutional overlap (e.g., Physics and Astronomy) or OpenAlex subfields (e.g., the subfields in which political scientists and sociologists work in cannot be easily separated, so we keep them together).

We measure prize density across fields by dividing the number of yearly recognition events associated with a field by that field's size (each co-recipient of a shared prize counts as a separate recognition event, and a researcher who receives multiple prizes is counted once per prize). Because each recognition event is assigned to a field based on the individual winner's publication record, inter- or multidisciplinary prizes are naturally distributed across fields according to the specializations of their winners. As an additional robustness check, we use the share of resources allocated to each field in the US federal research budget, which may better capture national and public interest in each field (Supplementary Figure S5).

[5] OpenAlex is an open bibliographic dataset comparable with Elsevier's Scopus or Clarivate's Web of Science (Culbert et al., 2025).

3 Results

3.1 Mapping and ranking prestigious prizes

Our methodology identifies the 99 most prestigious scientific prizes, ranked in Supplementary Table S1. For ranking the prizes, the PCA-based prestige indicator puts a weight of 26.1% on expert survey ratings, 29.7% on Wikipedia page views, 28.2% on media news mentions, 4.8% on prize age, and 11.2% on prize money. This first principal component explains 49% of total variance in our prestige indicators, nearly twice the share of the second component (27%), which loads almost exclusively on prize age (+0.74) and prize money (−0.67)—with near-zero loadings on survey ratings, page views, and news mentions—capturing an old-but-modest versus young-but-lavish trade-off. This clear dominance of a single factor supports our interpretation of the index as a measure of prestige.

These 99 prizes are on average 61 years old and have 78 daily Wikipedia page views (Table 1). They distribute on average USD 306,000 to each of their winners (median USD 167,000), with each prize distributing on average USD 650,000 per year. Together, they distribute about USD 64 million per year.

In terms of ranking, we assign eight prizes to the top tier, eleven to the second tier, and 80 to the third tier. The 99 prizes generate about 162 recognition events (one person recognized with one prize) per year. Prizes in computing and electrical engineering, mathematics, and chemistry tend to rank higher in our list, while prizes in other engineering fields tend to rank lower (Table 2). Physics and astronomy, despite having the most prizes (14), has an average rank close to the overall median. About one-quarter of all top prizes—often those related to environmental themes—are multidisciplinary.

Our tier-based classification system is also largely robust to different weighting schemes. To provide a conservative test of robustness, we simulate 1,000 different rankings with random weights, showing how the ranking of each prize would vary in Supplementary Table S4.[6] Overall, 94% (68%) of prizes fall in the same tier as the one implied by our PCA-based ranking in over 50% (90%) of the simulations. At the top, for prizes like the Nobels and Turing Award, our PCA-based ranking sits tightly within the 5th and 95th percentile of the random rankings, indicating little uncertainty about how they should be ranked. There is more variation in the simulated ranks of lower-ranked prizes, in good part due to the negative correlation between prize money and prize age.

[6] Specifically, we draw weights from a flat distribution over the simplex from a Dirichlet(1,1,1,1,1) distribution.

3.2 Explosion in recognition prizes

By plotting the number of already-established prestigious prizes each year we note a recent explosion in recognition prizes (Figure 1), consistent with prior work documenting that the number of scientific prizes (in general) grew faster than the number of disciplines after 1980 (Ma and Uzzi, 2018). The pace at which new highly prestigious prizes are created accelerates around the 1960s, showing that while having a long history might increase a prize's prestige, it is clearly not a necessary requirement for making the top list. Accordingly, there is little correlation between online popularity and prize age (Figure 2).

The creation of new prestigious prizes has been driven by diverse actors. Governments established prizes like the Abel Prize (Norway, 2003) and the Queen Elizabeth Prize for Engineering (UK, 2013). Silicon Valley entrepreneurs funded the Breakthrough Prize family, probably the most successful example of a prize created by individuals outside established institutions in the last 20 years. International organizations like the ICTP and the International Mathematical Union collaborated to create the ICTP Ramanujan Prize for young mathematicians.

We also note an even faster increase in the money value distributed by prestigious prizes. Since 2000, the number of prestigious prizes increased by about 40%, while the cash values distributed yearly doubled (Figure 1). Before 2000, growth in yearly prize money seems to more or less match the growth in the number of prizes, but that is probably an understatement since our figures only take into account a prize's current cash value while cash prizes have likely increased faster than inflation.[7] In line with the fact that newer prizes distribute more money per year, we find a strong (negative) correlation between prize age and money distributed per prize awarded (Figure 3).

Hence, while it has been possible to create new prestigious prizes, the *effective* cost to do so has increased. This may be due to the fact that new prizes have to compete with more already-prestigious prizes than their predecessors for the public's limited attention. While we do not provide causal evidence that larger purses lead to more prestige, we note that although there is only a modest raw correlation between prize money and online popularity (Supplementary Figure S1), prize money becomes a statistically significant predictor of page views after controlling for prize age, i.e., 1% more prize money (per award) is associated with 0.08% more page views ($p = 0.04$) and 0.18% more media news mentions ($p = 0.001$). These associations are correlational; reverse causality—whereby more prestigious prizes attract larger endowments—is also plausible.

[7] For instance, the inflation-adjusted value of a Nobel Prize in the early 1900s would be about USD 500,000 in 2025.

3.3 Gaps across fields

To identify which fields are over- or under-served, we divide the supply of yearly recognitions offered by the 99 top prizes by field size, the latter proxied by the number of researchers in top institutions or PhD students in each field. Several fields are consistently among the most recognized under both denominators. Physics & Astronomy and Microbiology & Immunology show the highest award density per academic, each receiving about five elite recognitions per thousand top researchers (Figure 4). Neuroscience, Mathematics, and Molecular Biology & Genetics also rank in the top seven under both measures (Figure 5). The earth and environmental sciences (Climate & Ocean Sciences, Geosciences, Ecology & Evolution) form a second cluster of well-recognized fields.

At the other end of the distribution, several large fields are consistently under-served regardless of the denominator. Computer science, despite its centrality to modern innovation, receives about 1.4 recognitions per thousand top academics—roughly one-quarter the density of physics—and remains in the lower half under PhDs as well. Other engineering subfields like mechanical, civil, aerospace, and biomedical engineering fall below one per thousand top academics under both measures. Arguably, there is space both for general and specific engineering prizes: for instance, while a rapidly growing field, there are no prizes specific to artificial intelligence among the top 99.

Psychology and the social sciences excluding economics are notably underserved, regardless of the denominator used. Psychology—which accounts for 5% of academics at top universities and 8% of U.S. PhDs—has no field-specific prizes; its low prize density derives entirely from unrestricted multidisciplinary awards. While psychology has arguably some prestigious prizes in the US (e.g., awards from the American Psychological Association or the Society for Industrial and Organizational Psychology), these do not clear the bar in any of our inclusion criteria; the MacArthur fellowship, often awarded to psychologists, is only given to US residents, so it is excluded from our list. Political Science & Sociology and Anthropology also sit near the bottom under both measures.

Where the two measures of field size disagree, the discrepancies are informative. Chemistry ranks 5th by academic density but drops to 13th by PhD density, because chemistry departments train a large volume of doctoral students relative to their faculty size; new PhDs thus "dilute" the per-capita recognition rate. Conversely, Economics ranks 14th by academic density but rises to 7th by PhD density, because its large professoriate produces comparatively few new doctorates each year.

These inequalities become generally more accentuated if we restrict attention to the most prestigious prizes: Tier 1 prizes alone generate zero recognitions for most fields outside physics, mathematics, life sciences, and economics (Supplementary Figure S3), and including Tier 2 does not substantially change this pattern (Supplementary Figure S4). If we instead use the value of the US Federal research budget directed to each field as the size proxy, computer science and engineering-related fields, psychology, and the social sciences without economics remain relatively under-supplied (Supplementary Figure S5). Using the count of well-cited papers (at least 5 citations, 2018–2020) as the field-size denominator—which may better reflect the *global* amount of work in each field— yields the same broad pattern as our preferred US-based field-size Fixmeasures (Supplementary Figure S6).

Although proximity to first principles could provide a rationale for why some fields have more prizes than others (as presumably those fields have more of an impact on all other fields), we see several violations. For example, Molecular Biology & Genetics and Neuroscience each have a higher prize density than Chemistry, and even exceed Physics & Astronomy on the PhD-based measure (Figure 5). It is more likely that the distribution of prizes over different fields has multiple determinants, most of them being path-dependent. Prestige still clusters in the disciplines that were institutionally dominant when modern prize systems first emerged.

3.4 Career Stages

Early-career prizes can function as both pull and push incentives, making them arguably more socially valuable per dollar than late-career awards. Yet only three among the 99 most prestigious prizes are early or mid-career prizes: the Fields Medal, the ICTP Ramanujan Prize, and the Max Planck-Humboldt Research Award. This scarcity of early career prizes could be rationalized if there were ample job and grant opportunities for young scientists, or if important discoveries were made exclusively by older researchers, but none of those seem true (Daniels, 2015; Cyranoski et al., 2011; Sauermann and Roach, 2016; Bjørk, 2019).

Hence, to better understand this scarcity, and in an effort to increase the signaling value of these prizes, we also provide a list and ranking of early career recognition prizes (Supplementary Table S3). We construct this list based on prize age and online popularity, since surveys of experts did not include many early career prizes and information about prize money is often sparse for these awards (see the Supplementary Information for details). Our strategy identifies the 68 most prestigious international early career prizes, which produce about 300 recognition events each year. So, while we identify fewer early career prizes than main prizes, these prizes are likely to recognize more scientists. This is because some prizes are given to large cohorts—for example, over 100 people become Sloan Fellows every year.

3.5 Incentive Design

Finally, we describe the magnitude and type of direct incentives that recognition prizes provide to their winners. There is substantial heterogeneity in how much money prizes distribute: eight prizes do not include a monetary value, and six prizes give out 1 million or more per winner. The median prize gives out USD 167,000 per winner (Figure 6; see also Supplementary Figure S2 for winner-level distribution). Hence, most prizes pay their prizewinners less than what they would make in two years in their regular academic jobs. If we see prizes as a sort of performance bonus, these would be one or two orders of magnitude lower than top private market bonuses to CEOs (Frydman and Jenter, 2010).

Despite the high variance in money values, there is minimal variation in how the prize money is paid out. Out of the 91 prizes with an associated money value, only four have conditions on how the money is spent (the Balzan Prizes, which require half the award to fund projects by young researchers; the James Craig Watson Medal; the Max Planck-Humboldt Research Award; and the Tang Prize in Biopharmaceutical Sciences). Comparing again with incentives in the private market, the absence of incentives for future performance stands out. While over half of top CEOs' compensation comes in the form of stock and options (Frydman and Jenter, 2010), most recognition prizes offer no incentive to push one's research agenda forward or guarantee that it connects to applications inside or outside academia. Although grants can play such role, they seem to have limited power in shaping future research (Myers, 2020); prizes with more creative incentive structures could be a viable alternative for shaping agendas.

4 Discussion

The recognition landscape is dynamic but structurally incomplete. Half of the most prestigious prizes are less than 45 years old, showing that new awards can rise to prominence. Yet significant gaps persist, particularly in branches of engineering and of the social sciences, and at early career stages. In this section, we discuss the possible welfare implications of our findings, how our novel prize ranking can be used to leverage prize information, and implications for designing and funding prizes in the future.

4.1 Do Field Coverage Gaps Matter?

To be sure, prizes complement rather than replace grants and other forms of scientific support. As fields may differ in their reliance on prizes relative to other incentives (and in the value that each incentive generates), the inequality in the recognition provided by prestigious prizes by itself does not imply that fields are providing too little or too much incentives to their scientists.

Nevertheless, because prizes are widely legible (e.g., in comparison to grants), prizes produce information reaching beyond the realm of current practitioners. In this case, inequality in field coverage can be more relevant. We provide four illustrations. First, the legibility of prestigious prizes allows them to be used as a tool to display canonical, key findings to the public, increasing the salience of a scientific consensus. In fields without prestigious prizes, it may be harder for the public to distinguish the consensus from the fringe. Second, prizes can raise the status of a field and lead the young to pursue scientific subjects. In this case, those aspiring to become scientists may lack information and role models to decide what to pursue. Third, scientists across disciplines can also benefit from richer prize signals. For instance if prizes in an adjacent discipline highlight a useful methodology, that can lead to new breakthroughs in other fields. This channel may be especially relevant given what Krauss (2024) documents: every Nobel-prize breakthrough in economics depended on methods first developed in other fields, meaning that under-recognized fields generate fewer legible signals for scientists elsewhere to act on. Fourth, countries also wish to attract the best talent in each field—an application that we discuss below. Of course, if the value of legibility outside the field varies across fields, the inequality in coverage may still be "efficient."

4.2 Prizes as signals

Prizes are already used as signals of excellence, e.g., in academic hiring or grant reviews. Since our lists and rankings facilitate the interpretation of signals associated with each prize, these use cases could be scaled up or diversified.

University rankings, for example, could incorporate prize-based information more systematically. Having multiple prizewinners among alumni and faculty is a positive signal about institutional quality, yet few university rankings take prizes into account (Meho, 2020). Our prestige index allows quality-weighting of these signals, and we suggest that rankings should also account for prizes won by past students, not only current faculty, to incentivize universities to nurture ambition rather than simply recruit established stars.

Immigration programs offer another illustration. Migration of highly skilled individuals can increase scientific production (Agarwal et al., 2023), benefiting the receiving country. Nevertheless, many immigration systems completely ignore scientific prizes. Even Canada, which has a long-lived and successful skills-based immigration program, appears to use no prize information when evaluating applications. Including prizes would be a cheap improvement to points-based systems, since points could easily be awarded to winning certain prizes, perhaps increasing with prize rank.

The UK Global Talent immigration stream lists 73 prizes considered sufficient proof of ability. Nevertheless, the list seems arbitrary: only 37 of our 99 most-prestigious prizes are included among the 73.[8] Other countries such as the US, France, and Australia are unclear or too restrictive in which prizes are considered relevant. For instance, the EB-1 US permanent residency category considers "major internationally recognized awards" in its eligibility criteria, but no list or specific description of such awards is provided. Our prize rankings can be used to streamline procedures and provide clarity about which international prizes should be taken into account. If these "talent-visa" programs committed to a specific list of prizes, a significant source of uncertainty would vanish and prizewinners could become more willing to apply.

4.3 New and Better Prizes

As prize-creation remains a popular endeavor, we now discuss the implications of our findings for (future) prize design. We start by providing case studies of successful new prizes, showing that, even recently, it was possible to create "Nobels" for fields without them. For instance, the Queen Elizabeth Prize for Engineering (29^{th} in our ranking) and the Abel Prize in Mathematics (7^{th}) have both been established in the 2000s. Both prizes were created and backed by governments, and each offers substantial prize money (the Abel Prize awards NOK 7.5 million, roughly USD 750,000; the QE Prize awards GBP 500,000, roughly USD 650,000). Hence, it is clearly possible to create successful, even Nobel-like prizes given enough resources and institutional credibility. Nevertheless, not all fields have succeeded in creating Nobels. In psychology, we could not single out any prize that has the potential to enter our list of most-prestigious prizes in the foreseeable future (at least in terms of our online visibility criterion), indicating that a new prize in the area would not face major competition.[9]

Next, we consider early career prizes. The Fields Medal, given to mathematicians under 40, is the only early career prize in the top tier. Most other fields lack a highly prestigious early-career award, but we see at least three pathways to fill those gaps. First, it is possible to create completely new prestigious early career prizes; the New Horizons prizes in Physics and Mathematics (first given in 2013 and 2016) demonstrate this path, awarding USD 100,000

[8] The other 36 prizes on the UK list are mostly given by UK professional associations (22) and do not make it into our list for various reasons (e.g., five are in non-scientific fields, a few are given only to UK residents, others don't clear the bar in terms of our prestige indicators). Moreover, only six of the 73 prizes can be considered early or mid-career prizes, and only one of those six, the Fields Medal, appears in our early career prize list.

[9] Although we do not include prizes in the field of education in our list of top prizes, the case of the Yidan Prize in Education is illustrative of what is possible. The Yidan prize was first given in 2017, but already has some notable prestige and visibility, with 15 daily page views, and no obvious close competitor in its field. Not only that, the Yidan prize presents its winners with prize money and R&D funds averaging about four million dollars per year, exemplifying a non-standard incentive scheme to further its goals.

to each of their three to six winners every year with ample funding and visibility from the Breakthrough prize family. Second, it is possible to convert already-prestigious prizes into early career prizes, as shown by the transformation of the Max Planck Research Award into the Max Planck-Humboldt Research Award, which now targets researchers within 15 years of their PhD and offers 1.5 million euros in research funds. Third, existing early-career prizes are often underfunded and can benefit from more support; strikingly, the Fields Medal, which we rank 5^{th} among all prizes in prestige, offers only 15,000 Canadian dollars in prize money. Using this strategy, funders may be able to prop up already-existing early career prizes into higher levels of prestige relatively quickly, as many underfunded prizes already have a history of excellence.

One difficulty associated with establishing prestigious early career prizes has to do with it being hard to identify top contributors early enough. In line with that hypothesis, we find that the discipline with the highest number of prizes concentrated at the top in our early career list is Mathematics, a field in which the identification of early talent is notably easy. Nevertheless, with enough resources and scale, this identification problem should be easy to overcome: for instance, the prestigious Sloan Fellowship, which accounts for almost half of the recognitions created by prizes in our early career list, is awarded to multiple economists, neuroscientists, and molecular biologists every year.

Finally, while the simplicity of lump-sum cash payments is attractive, prizegivers interested in accelerating scientific progress may consider incentives more conducive to further innovation. For instance, suppose a funder is interested in establishing a recognition prize for the development of new therapies. If that prize includes an incentive akin to an advanced market commitment (Kremer and Williams, 2010), in which the prizegiver promises a reward in case the therapy meets some actual market demand, then the prizewinners would have an incentive to shift their research program in a direction that would accelerate therapy development. Fellowship-style awards that combine recognition with multi-year research support, such as the Sloan Fellowships or HHMI Investigatorships, offer a proven template for this approach. More generally, additional prize rewards could be given based on the prizewinners' future scientific production, newly-received competitive grants, or patents linked to a certain research agenda. Mentorship of younger scientists could also be incentivized, either similarly to the Balzan prizes or in the form of bonuses for supervising dissertations. These conditional structures maintain the ex-ante "blue-sky" nature of scientific prizes while also optimizing incentives for future scientific work.

4.4 Conclusion

Our analysis points to three design principles for future scientific prizes. First, recognition could adapt to the structure of modern science. Breakthroughs increasingly arise at the intersections of established disciplines, yet most prizes remain tied to legacy field boundaries. Future prizes could rotate across emerging fields, allowing prestige to track where discovery actually occurs.

Second, prizes could accelerate future work, not merely commemorate past achievement. Early- and mid-career scientists stand to gain the most from recognition, yet almost no top prizes target them. Linking awards to research continuation grants, mentorship, or translational milestones could shift prizes from one-time honors toward sustained support.

Third, coverage could broaden. Engineering, computer science, psychology, and the social sciences remain underrepresented among top prizes, as do scientists working outside traditional research powerhouses. Philanthropists and institutions creating new prizes could address these gaps directly—and our data show that doing so is feasible, since half of today's most prestigious awards are less than 45 years old.

Data and code availability

Replication code and data are available at `https://github.com/deivisangeli/gtl-prizes-replication`.

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Tables and Figures

Table 1: Summary Statistics

Variable	Median	Mean	SD	Min	Max	N
Survey Rating	0.57	0.61	0.16	0.3	1	76
Daily Page views	14.01	78.17	209.2	0	1137.12	99
Prize Age	43	61.04	58.13	6	294	99
Period (Years)	1	1.36	0.81	1	6	99
Yearly Winners	1.5	1.63	1.43	0.25	12	99
Money per Year	186.67	649.76	1572.99	0	9000	99
Money per Prize	250	503.16	636.77	0	3000	99
Money Prize per Winner (Average)	166.67	306.35	455.8	0	3000	99

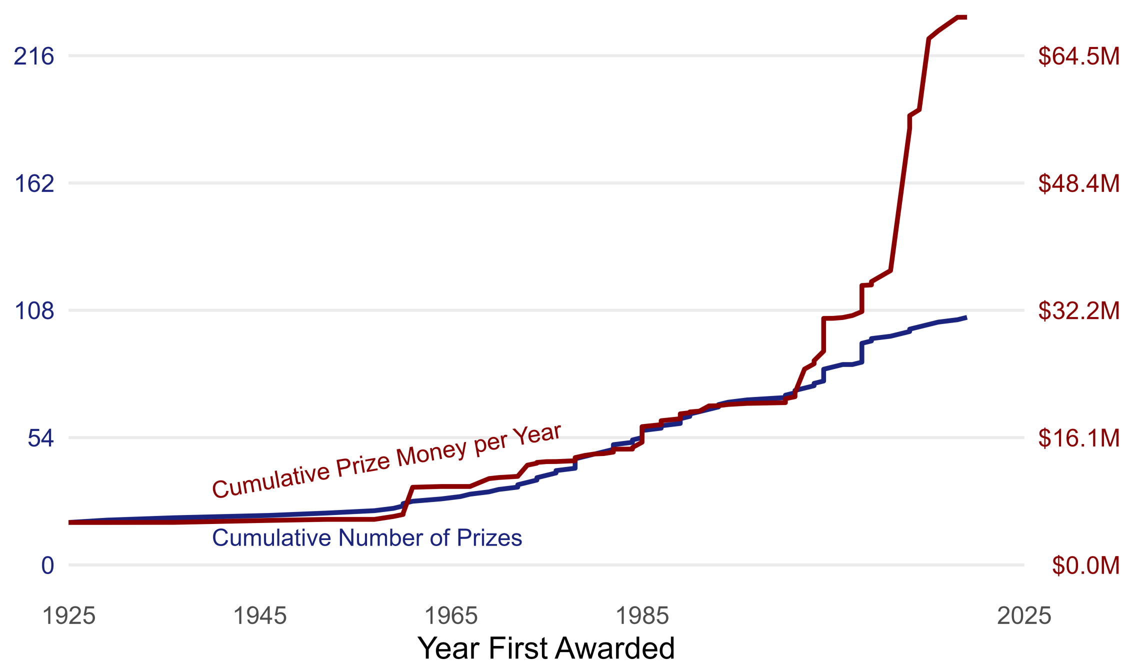
Note: This table provides summary statistics for the 99 recognition prizes that our methodology identifies as "most prestigious." Survey Rating stands for the expert ratings of prize importance in relation to the Nobel by Zheng and Liu (2015); Jiang and Liu (2018). Daily Page views refers to Wikipedia page views. Prize Age is with reference to the year the prize was first given. Period refers to the periodicity of the prize (e.g., yearly = 1, given once every two years = 2, and so on). Money values are in thousands of USD.

Table 2: Awards By Field

Field	Prizes	Awards/year	Avg. Rank
Mathematics and Physical Sciences	27	46.8	42.7
Mathematics	9	11.8	38.1
Physics and Astronomy	14	28.9	51.6
Chemistry	4	6	38.2
Applied Sciences	17	19.8	66.8
Earth Sciences	5	3.8	63.8
Ag. and Natural Resources	2	4	32
Materials and Mining Eng.	2	2	72.5
Bio and Biomedical Eng.	1	1.5	93
Computing, Electrical	5	6.5	35.4
Civil, Env., and Transp. Eng.	1	1	96
Mechanical Eng.	1	1	75
Engineering, other	–	–	–
Life and Health Sciences	25	49.8	54.6
Psychology	–	–	–
Social Sciences	5	6	56.6
Business and Economics	4	5	54.2
Other Social Sciences	1	1	59
Environment and Multidisciplinary	25	39.2	43.8
Total	99	161.7	50

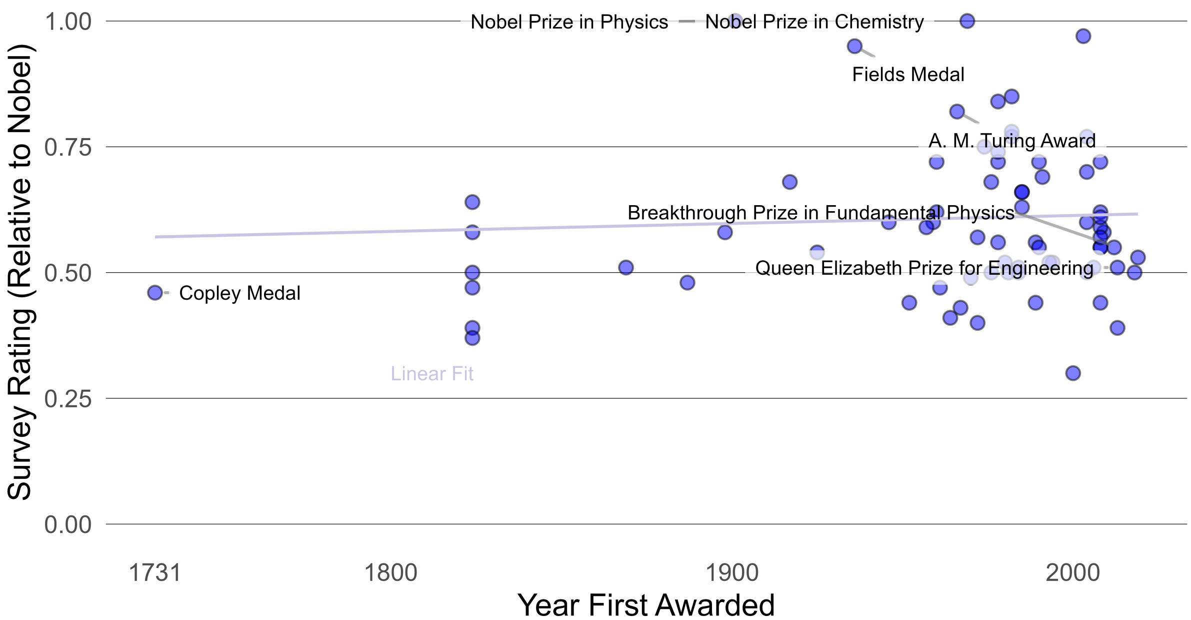
Note: This table summarizes the number of prizes, recognition events per year, and average rank (PCA-based) for the 99 most prestigious prizes, grouped by field.

Figure 1: The Explosion in Prestigious Recognition Prizes



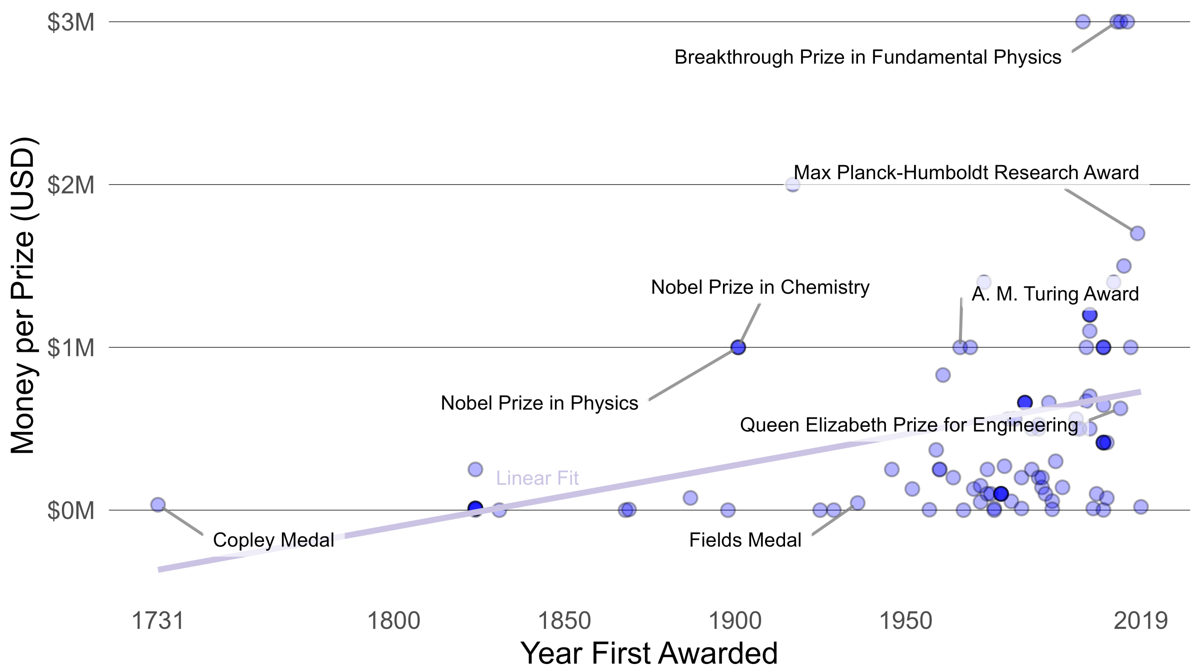
Note: The figure plots time series for the number of existing most-prestigious prizes each year (left axis) and the total yearly prize money given out by those prizes (right axis). The vertical axes are scaled so that the number of prizes and the prize money have the same base height in 1925.

Figure 2: Little Unconditional Correlation Between Prize Age and Expert Survey Rating



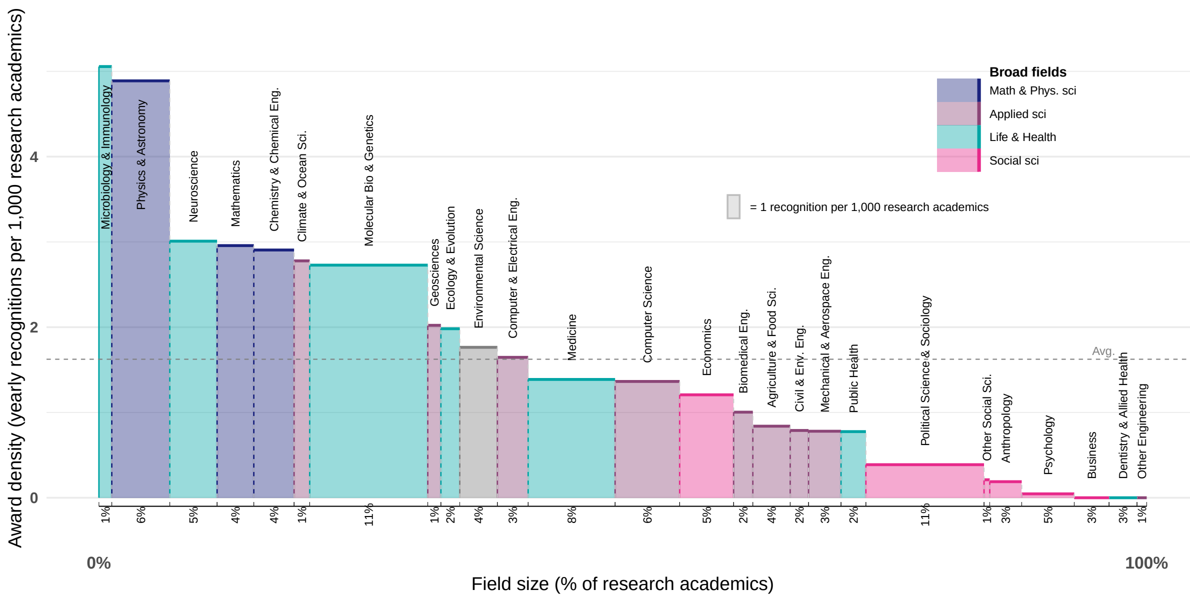
Note: The figure shows the relationship between expert survey rating (vertical, normalized relative to the Nobel Prize) and year first awarded (horizontal) for the 72 prizes with real survey ratings. Survey ratings from Zheng and Liu (2015) and Jiang and Liu (2018).

Figure 3: Newer Prestigious Prizes Have Larger Purse



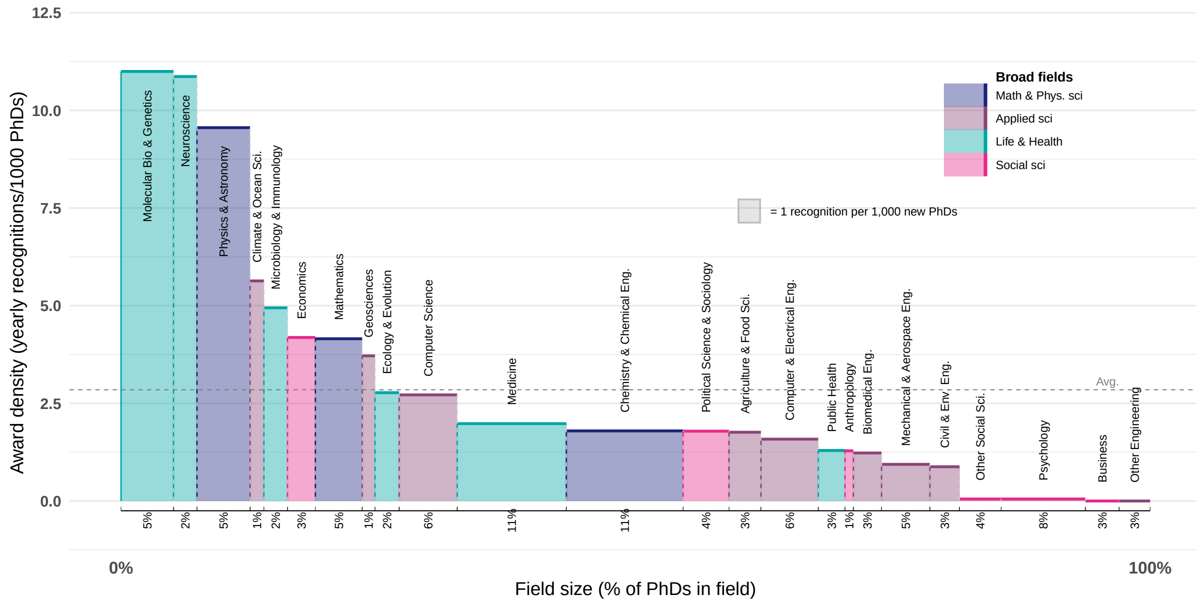
Note: The figure shows the relationship between prize money per award (vertical, which may be shared among multiple winners) and year first awarded (horizontal) for the 99 most prestigious prizes.

Figure 4: Award Density by Field (Research Academics Denominator)



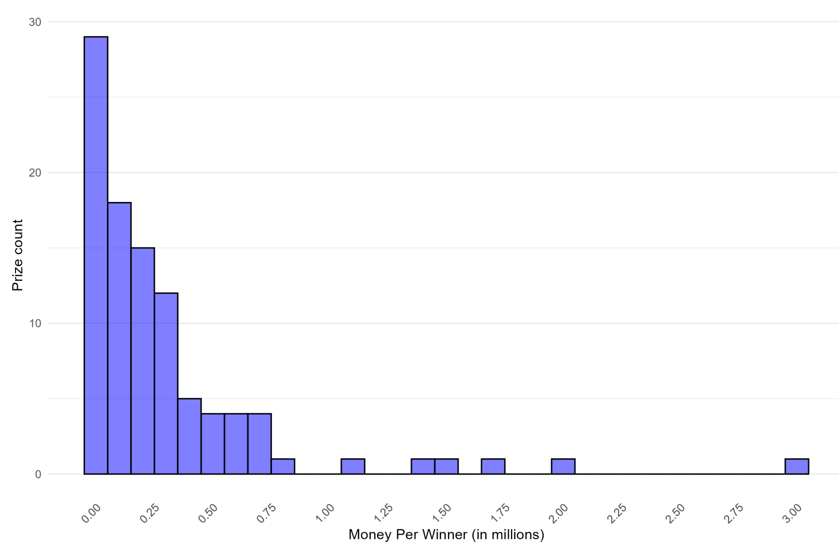
Note: The figure plots the density of recognition events created by the 99 most prestigious prizes across 26 field groups. Each recognition event is assigned to a field based on the winner's primary research field (openalex.org author profile). Recognition events from 2015–2024 are averaged over 10 years. Field size is measured based on the number of research academics at the top 150 US universities. Density regions are colored by broad fields. The relative size of each field is displayed under each bar.

Figure 5: Award Density by Field (PhD Denominator)



Note: The figure plots the density of recognition events created by the 99 most prestigious prizes across 24 field groups (limited by NSF doctorate field classifications). Each recognition event is assigned to a field based on the winner's primary research field (openalex.org author profile). Recognition events from 2015–2024 are averaged over 10 years. Field size is measured based on the number of new PhDs granted in the US in 2023. Density regions are colored by broad fields. The relative size of each field is displayed under each bar.

Figure 6: Distribution of Prize Money



Note: The figure depicts frequency counts of binned prize money per award (i.e., the total cash value awarded in a single recognition event, which may be shared among multiple winners) among the 99 most prestigious prizes.

Supplementary Information

S1 Early career prize methodology

For early career prizes, we make the inclusion criteria more lenient to capture more prizes. We rely more on prize age and online popularity, since these are more readily available for such awards. We define eligible prizes as those with any age or career stage restrictions or those focusing explicitly on recent work (past 10 years). Selection requires meeting one of:

- Two or more daily Wikipedia page views
- At least 60 years of history
- Inclusion in Wikipedia's early career awards list

We maintain the exclusion criteria regarding international reach and selection procedures, except we do not require winner lists to be readily available. This strategy identifies the 68 most prestigious international early career prizes, which produce about 300 recognition events each year. We provide a tier-based ranking for these prizes, based on a prestige proxy that puts 80% weight on daily page views and 20% weight on prize age (both normalized). We assign the first ten prizes to the first tier and the next twenty to the second tier.

Table S1: Most Prestigious Prizes, by Field

Award Name	Tier	Rank	Rating	Field
Nobel Prize in Physics	1	1	100	Physics and Astronomy
Nobel Prize in Physiology or Medicine	1	2	97.1	Life and Health Sciences
Sveriges Riksbank Prize in Economic Sciences in Memory of Alfred Nobel	1	3	96	Business and Economics
Nobel Prize in Chemistry	1	3	96	Chemistry
Fields Medal	1	5	87.9	Mathematics
A. M. Turing Award	1	6	87.4	Computing, Electrical
Abel Prize	1	7	81.6	Mathematics
World Food Prize	1	8	64.9	Ag. and Natural Resources
Tyler Prize for Environmental Achievement	2	8	64.9	Environment
Japan Prize	2	10	64.5	Multidisciplinary
Templeton Prize	2	11	64.3	Multidisciplinary
Wolf Prize in Physics	2	12	63.2	Physics and Astronomy
Breakthrough Prize in Fundamental Physics	2	13	61.2	Physics and Astronomy
Copley Medal	2	14	59.2	Multidisciplinary
Albert Lasker Basic Medical Research Award	2	14	59.2	Life and Health Sciences
Wolf Prize in Chemistry	2	16	58.7	Chemistry
Wolf Prize in Mathematics	2	16	58.7	Mathematics
Lasker–DeBakey Clinical Medical Research Award	2	18	58.3	Life and Health Sciences
Canada Gairdner International Award	2	19	58.2	Life and Health Sciences
IEEE Medal of Honor	3	20	58.1	Computing, Electrical
Breakthrough Prize in Life Sciences	3	21	56.4	Life and Health Sciences
Balzan Prizes	3	22	56.3	Multidisciplinary

Stockholm Water Prize	3	23	56.2	Environment
Millennium Technology Prize	3	24	55.5	Multidisciplinary
Wolf Prize in Medicine	3	25	55.2	Life and Health Sciences
Breakthrough Prize in Mathematics	3	26	55.1	Mathematics
Shaw Prize in Mathematical Sciences	3	27	53.7	Mathematics
Eni Award	3	27	53.7	Environment
Queen Elizabeth Prize for Engineering	3	29	53.3	Multidisciplinary
Shaw Prize in Astronomy	3	30	52.7	Physics and Astronomy
Charles Stark Draper Prize for Engineering	3	31	52.5	Multidisciplinary
Kyoto Prize in Basic Sciences	3	32	52.1	Multidisciplinary
Shaw Prize in Life Science and Medicine	3	33	50.8	Life and Health Sciences
Crafoord Prize in Biosciences	3	34	49.9	Life and Health Sciences
Crafoord Prize in Geosciences	3	35	49.3	Earth Sciences
Kavli Prize in Nanoscience	3	36	49.1	Multidisciplinary
Kavli Prize in Neuroscience	3	37	48.7	Life and Health Sciences
Blue Planet Prize	3	38	48.3	Environment
Crafoord Prize in Astronomy	3	38	48.3	Physics and Astronomy
Kavli Prize in Astrophysics	3	40	48.2	Physics and Astronomy
Marconi Prize	3	41	47.9	Computing, Electrical
Canada Gairdner Global Health Award	3	41	47.9	Life and Health Sciences
Gold Medal for Astronomy	3	43	47.4	Physics and Astronomy
Robert Koch Award	3	44	47.2	Life and Health Sciences
Kyoto Prize in Advanced Technology	3	45	47.1	Multidisciplinary
Vetlesen Prize	3	46	47	Earth Sciences
Gödel Prize	3	47	46.7	Computing, Electrical

Volvo Environment Prize	3	47	46.7	Environment
ICTP Ramanujan Prize	3	49	45.7	Mathematics
Albert Einstein World Award of Science	3	50	45.5	Multidisciplinary
King Faisal International Prize in Science	3	51	44.8	Multidisciplinary
Timoshenko Medal	3	52	44.7	Multidisciplinary
Crafoord Prize in Mathematics	3	53	44.3	Mathematics
Paul Ehrlich and Ludwig Darmstaedter Prize	3	54	42.7	Life and Health Sciences
Benjamin Franklin Medal in Chemistry	3	55	41.5	Chemistry
Wolf Prize in Agriculture	3	56	41.4	Ag. and Natural Resources
Brain Prize	3	56	41.4	Life and Health Sciences
Erwin Plein Nemmers Prize in Economics	3	58	41.3	Business and Economics
Stockholm Prize in Criminology	3	59	40.7	Other Social Sciences
Benjamin Franklin Medal in Life Science	3	60	40.5	Life and Health Sciences
Tang Prize in Biopharmaceutical Science	3	61	40.4	Life and Health Sciences
Frontiers of Knowledge Award in Climate Change	3	62	40.3	Earth Sciences
Benjamin Franklin Medal in Electrical Engineering	3	63	39.8	Computing, Electrical
Frontiers of Knowledge Award in Ecology and Conservation Biology	3	64	39.6	Environment
Harvey Prize	3	65	39.4	Multidisciplinary
Isaac Newton Medal	3	66	39.2	Physics and Astronomy
Louisa Gross Horwitz Prize	3	67	38.9	Life and Health Sciences
Von Hippel Award	3	68	38.8	Materials and Mining Eng.
Bower Award and Prize for Achievement in Science	3	69	38.7	Multidisciplinary
Rolf Schock Prize in Mathematics	3	70	38.1	Mathematics
Frontiers of Knowledge Award in Economics, Finance and Management	3	71	37.8	Business and Economics
Gruber Prize in Cosmology	3	72	36.8	Physics and Astronomy

Warren Alpert Foundation Prize	3	72	36.8	Life and Health Sciences
Max Planck Medal	3	74	36.2	Physics and Astronomy
Benjamin Franklin Medal in Mechanical Engineering	3	75	36	Mechanical Eng.
James Craig Watson Medal	3	76	35.9	Physics and Astronomy
Benjamin Franklin Medal in Materials Science and Engineering	3	77	34.8	Materials and Mining Eng.
Faraday Lectureship Prize	3	78	34.7	Chemistry
Wollaston Medal	3	79	34.5	Earth Sciences
Heineken Prize for Environmental Sciences	3	80	34.4	Environment
Crafoord prize in Polyarthritis	3	81	34	Life and Health Sciences
Heineken Prize for Medicine	3	82	33.1	Life and Health Sciences
Matteucci Medal	3	83	33	Physics and Astronomy
Gruber Prize in Genetics	3	84	32.6	Life and Health Sciences
Stein Rokkan Prize for Comparative Social Science Research	3	84	32.6	Business and Economics
Lorentz Medal	3	86	32.3	Physics and Astronomy
Heineken Prize for Biochemistry and Biophysics	3	86	32.3	Life and Health Sciences
Bruce Medal	3	88	32.2	Physics and Astronomy
Maryam Mirzakhani Prize in Mathematics	3	89	32	Mathematics
InBev-Baillet Latour Health Prize	3	90	31.7	Life and Health Sciences
Gruber Prize in Neuroscience	3	91	31.5	Life and Health Sciences
Frontiers of Knowledge Award in Biology and Biomedicine	3	92	31.3	Life and Health Sciences
Russ Prize	3	93	30.8	Bio. and Biomedical Eng.
Max Planck Research Award	3	94	30.2	Multidisciplinary
Keio Medical Science Prize	3	95	29.6	Life and Health Sciences
International Award of Merit in Structural Engineering	3	96	29.4	Civil, Env., and Transp. Eng.
Arthur L. Day Prize and Lectureship	3	97	28.9	Earth Sciences

Frontiers of Knowledge Award in Basic Sciences	3	98	27.9	Multidisciplinary
Max Planck-Humboldt Research Award	3	99	26.8	Multidisciplinary

Note: This table lists the 99 prizes that our methodology has identified as "most prestigious," ranked. Prizes are sorted by Rating, which is the sum of the prestige indicators weighted by the first principal component loadings. Prizes with the same Rating up to the first decimal are shown under the same Rank. Tiers are defined according to the cumulative sum of the yearly most prestigious recognition events (1 event = 1 personbeing recognized with 1 prize): Tier 1 includes the top 10% recognition events, Tier 2 the next 20%, and Tier 3 the remaining.

Table S2: Correlation Between Normalized Prestige Indicators

	Survey Rating	Daily Page Views	Prize Age	Money per Prize	News Mentions
Survey Rating	1				
Daily Page Views	0.68 (0.09)***	1			
Prize Age	0.08 (0.12)	0.17 (0.11)	1		
Money per Prize	0.21 (0.11)	0.09 (0.12)	-0.47 (0.10)***	1	
News Mentions	0.53 (0.10)***	0.77 (0.07)***	0.10 (0.12)	0.25 (0.11)*	1

Note: The table shows estimates of the Pearson correlation coefficients between each pair of the five prestige indicators, after normalization. Standard errors between parenthesis. * p<0.05, ** p<0.01, *** p<0.001.

Table S3: Selected Early Career Prizes, Ranked

Award Name	Tier	Field
Bôcher Memorial Prize	1	Mathematics
Clay Research Award	1	Mathematics
COPSS Presidents' Award	1	Mathematics
Fermat Prize	1	Mathematics
Fields Medal	1	Mathematics
ICTP Ramanujan Prize	1	Mathematics
Max Planck-Humboldt Research Award	1	Multidisciplinary
Oswald Veblen Prize in Geometry	1	Mathematics
Rollo Davidson Prize	1	Mathematics
Salem Prize	1	Mathematics
Annie Jump Cannon Award in Astronomy	2	Astronomy
Berwick Prize	2	Mathematics
Bigsby Medal	2	Earth Sciences
Fernand Holweck Medal and Prize	2	Physics
ICTP Prize	2	Physics
IJCAI Computers and Thought Award	2	Computer Science and Engineering
IMU Abacus Medal	2	Computer Science and Engineering
J. H. Wilkinson Prize for Numerical Software	2	Computer Science and Engineering
Leslie Fox Prize for Numerical Analysis	2	Mathematics
Lieben Prize	2	Multidisciplinary
Loève Prize	2	Mathematics
Machtey Award	2	Computer Science and Engineering
Michael Brin Prize in Dynamical Systems	2	Mathematics
Overton Prize	2	Life Sciences and Medicine

Peccot Lectures	2	Mathematics
Ruth Lyttle Satter Prize in Mathematics	2	Mathematics
Sloan Research Fellowship∗	2	Multidisciplinary
Troland Research Awards	2	Psychology
Walter L. Huber Civil Engineering Research Prize	2	Computer Science and Engineering
Yrjö Jahnsson Award	2	Social Sciences
Adolph Lomb Medal	3	Physics
Amelia Earhart Fellowship	3	Computer Science and Engineering
Beilby Medal and Prize	3	Chemistry
Bunsen–Kirchhoff Award	3	Chemistry
Colworth Medal	3	Life Sciences and Medicine
Dahl–Nygaard Prize Junior Prize	3	Computer Science and Engineering
E. H. Moore Research Article Prize	3	Mathematics
E. W. Beth Dissertation Prize	3	Multidisciplinary
EMBO Gold Medal	3	Life Sciences and Medicine
European Prize in Combinatorics	3	Mathematics
Fröhlich Prize	3	Mathematics
Germán Bernácer Prize	3	Social Sciences
Gossen Prize	3	Social Sciences
Gribov Medal	3	Physics
Hausdorff Medal	3	Mathematics
James B. Macelwane Medal	3	Earth Sciences
James Clerk Maxwell Medal and Prize	3	Physics
Kalai Prize	3	Computer Science and Engineering
Levi L. Conant Prize	3	Mathematics
LTPP Data Analysis Contest - Challenge Category	3	Computer Science and Engineering
Luigi G. Napolitano Award	3	Computer Science and Engineering
Margaret Mead Award	3	Social Sciences
Maurice Wilkes Award	3	Computer Science and Engineering
Nerode Prize	3	Mathematics
New Horizons in Fundamental Physics	3	Physics
New Horizons in Mathematics	3	Mathematics
Otto Hahn Medal – Biological-Medical∗	3	Life Sciences and Medicine
Otto Hahn Medal – Chemical-Physical-Engineering∗	3	Multidisciplinary
Otto Hahn Medal – Social Sciences-Humanities∗	3	Multidisciplinary
Presburger Award	3	Computer Science and Engineering
Ribenboim Prize	3	Mathematics

Richard Lounsbery Award	3	Life Sciences and Medicine
Science Innovation Award	3	Earth Sciences
Stampacchia Medal	3	Mathematics
Stockholm Junior Water Prize	3	Multidisciplinary
T. S. Ashton Prize	3	Social Sciences
W. Alden Spencer Award	3	Life Sciences and Medicine
Wayne B. Nottingham Prize	3	Physics

Note: This table lists the 68 most prestigious early career prizes. We construct prize Tiers by calculating a prestige index that puts 80% weight on daily page views and 20% on prize age. Tier 1 contains the top 10 prizes, Tier 2 the next 20. Within Tiers, prizes are listed alphabetically.

Table S4: Robustness Exercise – Distribution of Prize Ranking under Random Weighting

Award Name	PCA Rank	P5	P50	P95	PCA Tier	% in right Tier
Nobel Prize in Physics	1	1	1	1	1	100
Nobel Prize in Physiology or Medicine	2	2	2	3	1	100
Nobel Prize in Chemistry	3	3	3	4	1	100
Sveriges Riksbank Prize in Economic Sciences in Memory of Alfred Nobel	4	3	4	7	1	96.4
Fields Medal	5	4	6	13	1	89.7
A. M. Turing Award	6	5	5	11	1	94.9
Abel Prize	7	6	9	42	1	60.5
Tyler Prize for Environmental Achievement	8	10	15	27	1	2.1
Japan Prize	9	9	13	32	2	89.7
Wolf Prize in Physics	10	11	19	35	2	69.8
World Food Prize	11	7	10	38	2	46.5
Templeton Prize	12	6	8	23	2	21.8
Wolf Prize in Mathematics	13	12	33	59	2	25.7
Albert Lasker Basic Medical Research Award	14	12	20	31	2	60.8
Breakthrough Prize in Fundamental Physics	15	9	19	77	2	48.5
Wolf Prize in Chemistry	16	19	28	41	2	22.6
IEEE Medal of Honor	17	6	13	29	2	49.1
Lasker–DeBakey Clinical Medical Research Award	18	11	17	24	2	71.2
Canada Gairdner International Award	19	13	17	26	2	68.4
Copley Medal	20	4	9	37	3	18.1
Stockholm Water Prize	21	18	36	56	3	89.3
Shaw Prize in Mathematical Sciences	22	20	43	71	3	94.6
Balzan Prizes	23	10	15	28	3	17.4
Wolf Prize in Medicine	24	20	27	43	3	81.5

Millennium Technology Prize	25	16	25	64	3	86.5
Breakthrough Prize in Life Sciences	26	11	22	82	3	61
Shaw Prize in Astronomy	27	21	41	70	3	96.6
Eni Award	28	18	36	75	3	96.9
Kyoto Prize in Basic Sciences	29	18	34	60	3	84.2
Breakthrough Prize in Mathematics	30	11	28	92	3	75.4
Queen Elizabeth Prize for Engineering	31	21	39	88	3	100
Charles Stark Draper Prize for Engineering	32	26	31	47	3	98.4
Crafoord Prize in Geosciences	33	22	50	73	3	92.9
Shaw Prize in Life Science and Medicine	34	23	41	69	3	98.8
Crafoord Prize in Astronomy	35	26	49	66	3	94.2
Kavli Prize in Astrophysics	36	33	61	87	3	99.5
Kavli Prize in Nanoscience	37	32	52	80	3	99.9
Crafoord Prize in Biosciences	38	19	32	52	3	84.6
Gold Medal for Astronomy	39	8	46	92	3	72.1
Kavli Prize in Neuroscience	40	31	47	79	3	100
Volvo Environment Prize	41	41	59	73	3	99.6
Canada Gairdner Global Health Award	42	33	66	88	3	100
Kyoto Prize in Advanced Technology	43	25	45	74	3	96.6
Vetlesen Prize	44	24	41	53	3	87.7
Crafoord Prize in Mathematics	45	29	59	90	3	96.5
Blue Planet Prize	46	23	35	58	3	97.7
Robert Koch Award	47	31	39	49	3	98.4
Timoshenko Medal	48	34	54	88	3	97.2
Albert Einstein World Award of Science	49	34	57	83	3	100
Marconi Prize	50	22	30	55	3	87.3
Gödel Prize	51	22	51	88	3	96.6

King Faisal International Prize in Science	52	43	50	56	3	100
ICTP Ramanujan Prize	53	29	63	89	3	99.7
Paul Ehrlich and Ludwig Darmstaedter Prize	54	26	43	59	3	88.3
Erwin Plein Nemmers Prize in Economics	55	51	61	73	3	100
Benjamin Franklin Medal in Chemistry	56	9	41	80	3	67.6
Frontiers of Knowledge Award in Climate Change	57	55	78	93	3	100
Benjamin Franklin Medal in Electrical Engineering	58	10	55	83	3	74.2
Von Hippel Award	59	53	81	90	3	99.9
Stockholm Prize in Criminology	60	57	76	88	3	100
Frontiers of Knowledge Award in Ecology and Conservation Biology	61	58	81	95	3	100
Isaac Newton Medal	62	62	90	97	3	100
Wolf Prize in Agriculture	63	36	49	67	3	100
Benjamin Franklin Medal in Life Science	64	9	38	81	3	67
Louisa Gross Horwitz Prize	65	34	81	98	3	99.7
Rolf Schock Prize in Mathematics	66	64	76	86	3	100
Brain Prize	67	30	54	91	3	99.7
Harvey Prize	68	41	56	72	3	99.9
Bower Award and Prize for Achievement in Science	69	7	35	67	3	63.5
Tang Prize in Biopharmaceutical Science	70	28	60	96	3	99.6
Frontiers of Knowledge Award in Economics, Finance and Management	71	54	77	92	3	100
Benjamin Franklin Medal in Mechanical Engineering	72	13	63	87	3	78.6
James Craig Watson Medal	73	17	60	84	3	81
Faraday Lectureship Prize	74	18	71	92	3	86
Max Planck Medal	75	24	76	96	3	91.2
Heineken Prize for Environmental Sciences	76	61	79	95	3	100
Gruber Prize in Cosmology	77	49	66	79	3	100
Warren Alpert Foundation Prize	78	38	53	73	3	99.9

Bruce Medal	79	27	92	98	3	94.1
Wollaston Medal	80	14	70	95	3	82.8
Lorentz Medal	81	35	93	99	3	96.2
Stein Rokkan Prize for Comparative Social Science Research	82	60	82	96	3	100
Heineken Prize for Medicine	83	62	75	94	3	100
Maryam Mirzakhani Prize in Mathematics	84	85	96	99	3	100
Benjamin Franklin Medal in Materials Science and Engineering	85	12	51	85	3	73.8
Crafoord prize in Polyarthritis	86	54	74	89	3	100
Matteucci Medal	87	17	82	97	3	86.6
Heineken Prize for Biochemistry and Biophysics	88	40	70	93	3	98.3
Gruber Prize in Genetics	89	58	76	89	3	100
Max Planck Research Award	90	39	81	98	3	98.5
Arthur L. Day Prize and Lectureship	91	56	89	98	3	100
International Award of Merit in Structural Engineering	92	61	96	99	3	100
InBev-Baillet Latour Health Prize	93	50	68	86	3	100
Russ Prize	94	61	83	95	3	100
Gruber Prize in Neuroscience	95	60	80	93	3	100
Frontiers of Knowledge Award in Biology and Biomedicine	96	53	80	95	3	100
Max Planck-Humboldt Research Award	97	68	98	99	3	100
Keio Medical Science Prize	98	72	80	90	3	100
Frontiers of Knowledge Award in Basic Sciences	99	69	89	97	3	100

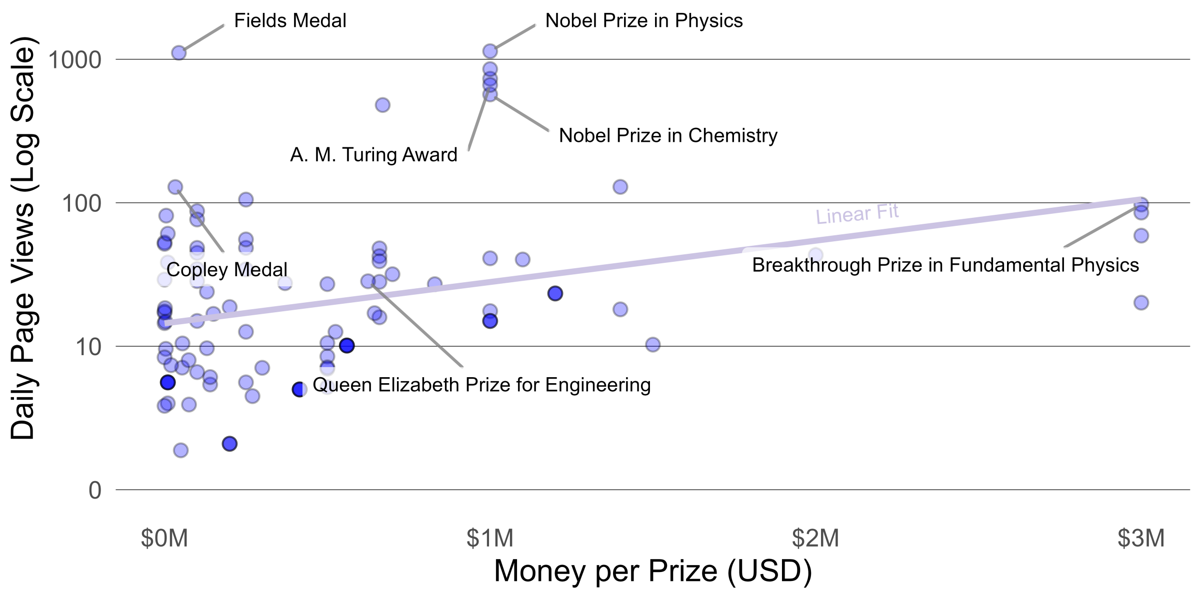
Note: This table shows statistics about the distribution of rank and tier for our list of 99 most prestigious prizes in 1,000 simulations using random weights. The original ranking is shown in the PCA Rank column. The P5, P50, and P95 columns show the 5th, 50th, and 95th percentiles of the simulated ranks. The PCA Tier column shows the original tier. The % in right Tier column shows how often the simulated tier coincides with the original tier.

Table S5: Lists of Prestigious Awards

List	**Compilers**	**Number of Prizes**	**Year**
US National Research Council's list of prestigious awards for ranking doctoral programs	Domain experts	191	2006
Inventory of International Awards	Government of Canada	135	2018
Roster of Distinguished Awards	International Congress of Distinguished Awards	95	2014
Prizes known as the Nobel of a field	Wikipedia contributors	63	2019
Prizes considered in the CWUR World University Rankings	CWUR	30	2019
Prizes considered in the Shanghai University Rankings	ARWU, based on their survey of academics	26	2019
Major prizes for medical research	Naylor and Bell (2015, JAMA)	20	2015

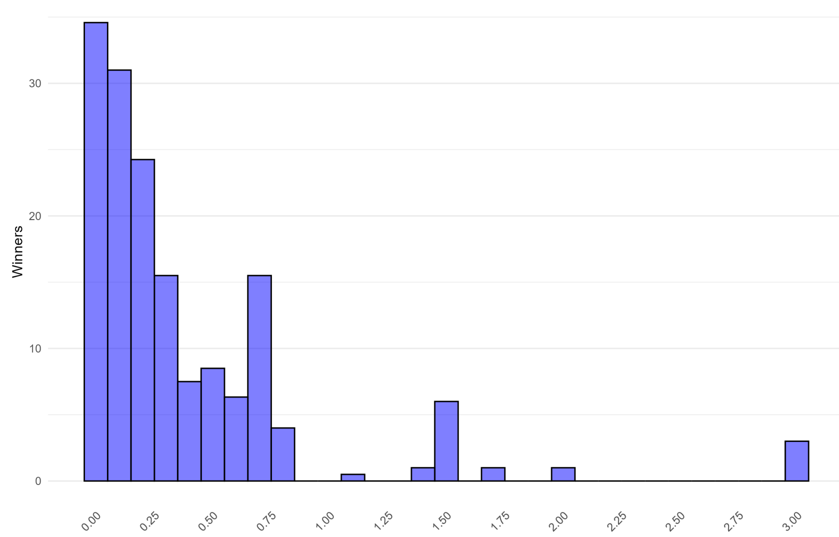
Note: This table summarizes the seven lists of prestigious prizes used in selection Criteria 1 and 2.

Figure S1: Unconditional Correlation Between Purse Value and Online Visibility



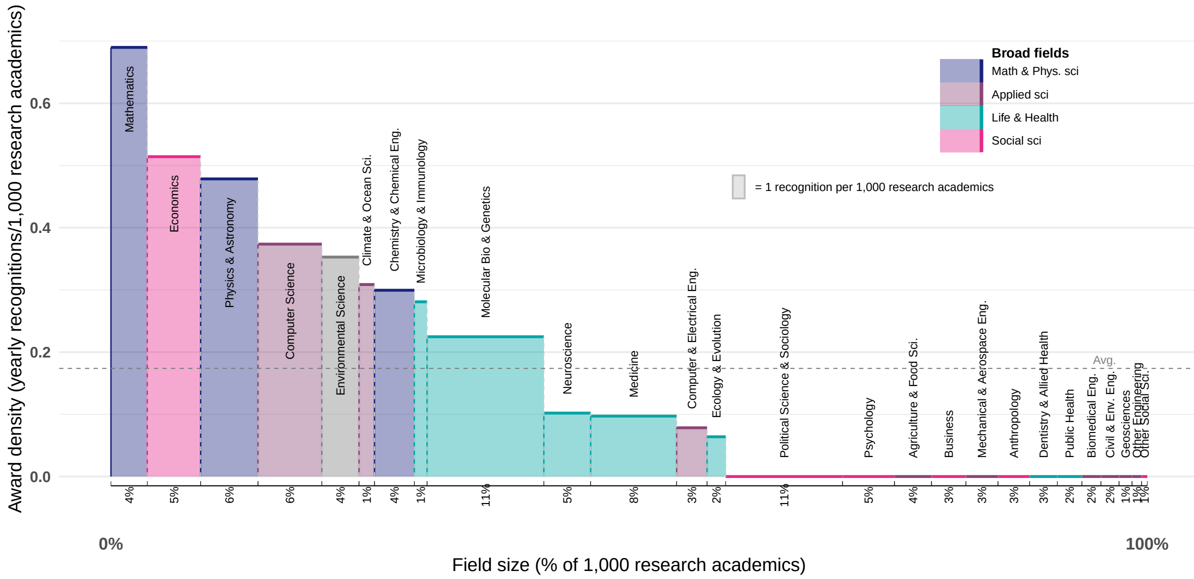
Note: The figure shows the relationship between daily Wikipedia page views (vertical) and prize money per award, which may be shared among multiple winners (horizontal) for the 99 most prestigious prizes.

Figure S2: Distribution of Prize Money (Per Winner)



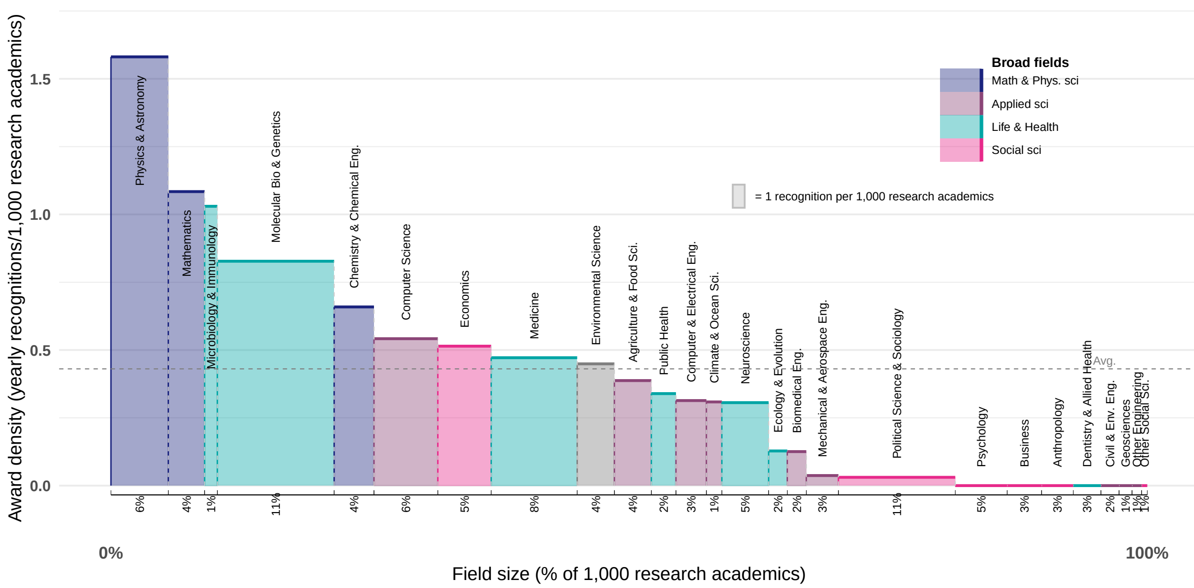
Note: The figure depicts frequency counts of binned prize money per winner among the 99 most prestigious prizes.

Figure S3: Award Density by Field: Tier 1 Prizes Only



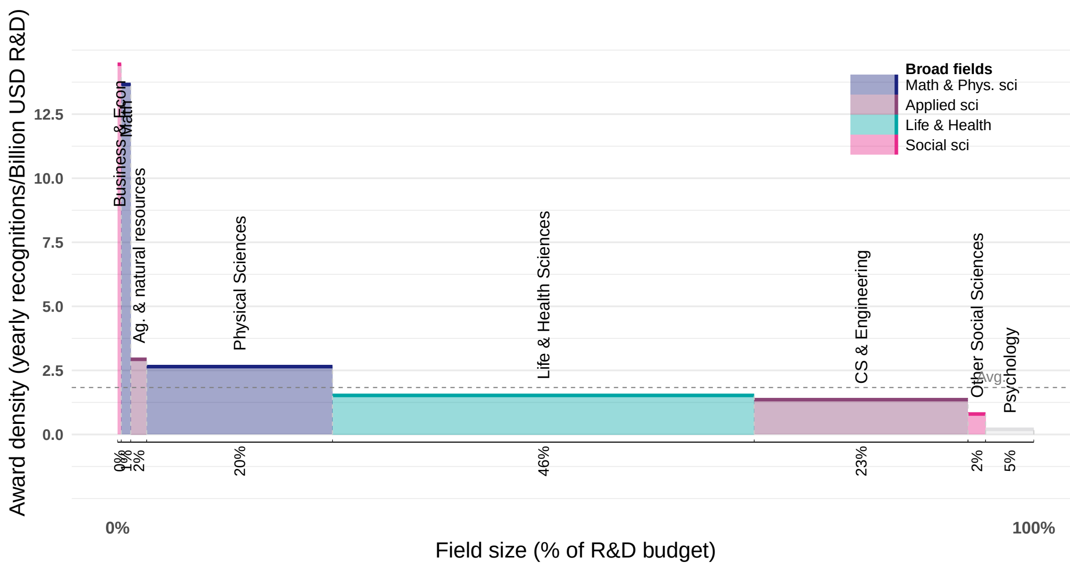
Note: The figure plots the density of recognition events created by the eight Tier 1 prizes for each scientific field. Winners (2015–2024) are assigned to fields based on their openalex.org subfield, aggregated into 26 field groups. Field size is measured by the number of research academics at the top 150 U.S. universities. Density regions are colored by broad fields. The relative size of each field is displayed under each bar.

Figure S4: Award Density by Field: Tier 1 and Tier 2 Prizes



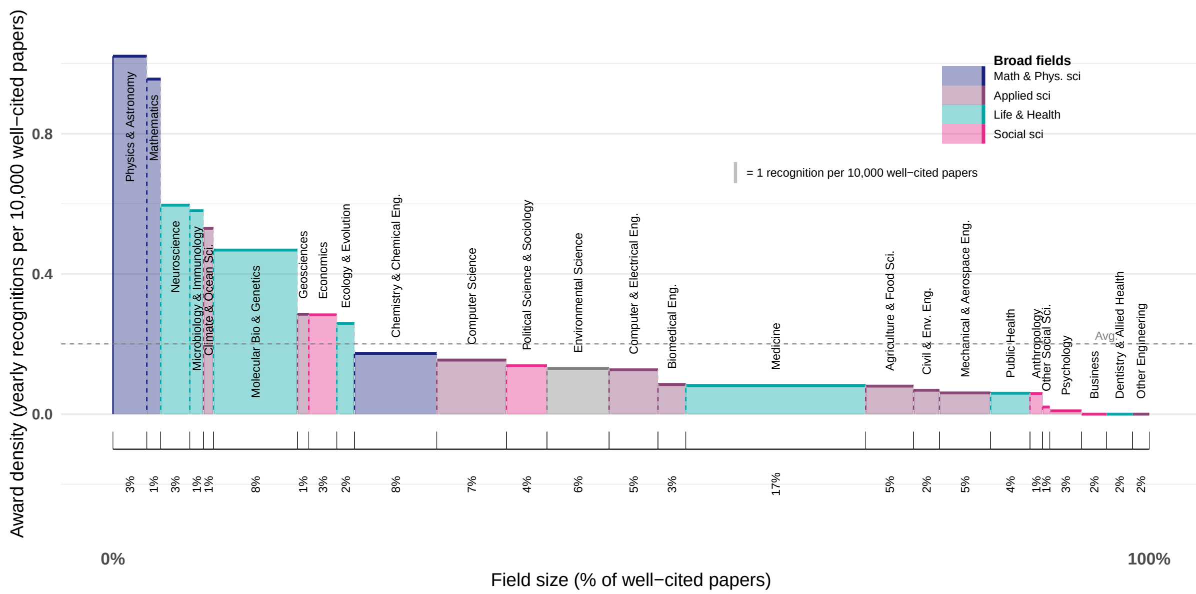
Note: The figure plots the density of recognition events created by the 19 Tier 1 and Tier 2 prizes for each scientific field. Winners (2015–2024) are assigned to fields based on their openalex.org subfield, aggregated into 26 field groups. Field size is measured by the number of research academics at the top 150 U.S. universities. Density regions are colored by broad fields. The relative size of each field is displayed under each bar.

Figure S5: Award Density by Funding



Note: The figure plots the density of recognition events created by the 99 most prestigious prizes for each scientific field. Each prize is assigned to one or more fields; multidisciplinary prizes distribute recognitions proportionally to field size. Field size is measured as the share of the US federal research budget in 2022 destined to each field. Density regions are colored by broad fields. The relative size of each field is displayed under each bar.

Figure S6: Award Density by Field (Well-Cited Works Denominator)



Note: The figure plots the density of recognition events created by the 99 most prestigious prizes across 26 field groups. Each recognition event is assigned to a field based on the winner's primary research field (openalex.org author profile). Recognition events from 2015–2024 are averaged over 10 years. Field size is measured by the number of OpenAlex works with at least 5 citations published in 2018–2020. Density is expressed as yearly recognitions per 10,000 well-cited papers. Density regions are colored by broad fields. The relative size of each field is displayed under each bar.

S2 Media Cloud search queries for ambiguous prize names

For prizes whose name could plausibly match unrelated entities in news text, we augment the exact-phrase search with Boolean AND terms. The query structure is: (*prize name*) AND (*context terms*). Table S6 lists the 25 prizes treated this way, together with the short search term and the context terms used to disambiguate.

Table S6: Contextual Boolean terms for ambiguous prize names (Media Cloud queries)

Prize	Search term	Context term(s)
Benjamin Franklin Medal in Chemistry	Benjamin Franklin Medal	Chemistry
Benjamin Franklin Medal in Electrical Engineering	Benjamin Franklin Medal	Electrical Engineering
Benjamin Franklin Medal in Life Science	Benjamin Franklin Medal	Life Science
Benjamin Franklin Medal in Materials Science	Benjamin Franklin Medal	Materials Science
Benjamin Franklin Medal in Mechanical Engineering	Benjamin Franklin Medal	Mechanical Engineering
Bower Award and Prize for Achievement in Science	Bower Award	science
Brain Prize	Brain Prize	neuroscience OR Lundbeck
Bruce Medal	Bruce Medal	astronomy OR Astronomical Society
Crafoord Prize in Polyarthritis	Crafoord Prize	polyarthritis OR rheumatology
Frontiers of Knowledge Award (Basic Sciences)	Frontiers of Knowledge Award	Basic Sciences
Frontiers of Knowledge Award (Biology & Biomedicine)	Frontiers of Knowledge Award	biology OR biomedicine
Frontiers of Knowledge Award (Climate Change)	Frontiers of Knowledge Award	climate change
Frontiers of Knowledge Award (Ecology & Conservation)	Frontiers of Knowledge Award	ecology; conservation
Frontiers of Knowledge Award (Economics, Finance & Management)	Frontiers of Knowledge Award	economics OR finance OR management
Gold Medal for Astronomy	Gold Medal	Royal Astronomical Society
Harvey Prize	Harvey Prize	Technion
Heineken Prize for Biochemistry and Biophysics	Heineken Prize	biochemistry OR biophysics
Heineken Prize for Environmental Sciences	Heineken Prize	environment
Heineken Prize for Medicine	Heineken Prize	medicine
International Award of Merit in Structural Engineering	Award of Merit	structural engineering
Isaac Newton Medal	Isaac Newton Medal	physics; Institute of Physics
James Craig Watson Medal	Watson Medal	astronomy

(Table S6 continued)

Prize	Search term	Context term(s)
Rolf Schock Prize in Mathematics	Rolf Schock Prize / Schock Prize	mathematics
Russ Prize	Russ Prize	engineering OR National Academy
Tang Prize in Biopharmaceutical Science	Tang Prize	biopharmaceutical