

**Supplementary Information to:  
Industry-funded academic inventions boost innovation  
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**Table S1: Invention statistics**

Statistics for Inventions / Inventions Excluding those licensed by sponsors, respectively								
Disclosed Inventions					Licensed Inventions		Forward Patent Citations	
(1)	(2)	(3A)	(3B)	(4A)	(4B)	(5)	(6)	
Number	% With at Least One Patent	% Licensed	% Licensed	% Exclusively Licensed	% Exclusively Licensed	Per Patent	Per Invention	
Federal	5572/5566	25.9/25.9	22/22	19.8/19.7	68.3/68.5	76.2/76.3	13.9 / 13.6	5.6 / 5.5
Corporate	887/774	35.4/31.8	28.5/18.1	28.3/18	74.3/65	74.4/64.7	25.2 / 28	13.7 / 12.8
Federal-Corporate	581/507	42.5/39.6	35.5/26	34.7/25.1	78.2/70.5	79.9/72.3	16.9 / 16.9	12.8 / 12.1
Other Sponsors	1527/1507	23.6/23	20/18.9	18.4/17.3	66.2/64.6	69.5/68	13.6/13.4	5 / 4.9
No Sponsor Information	3949/3949	16.5/16.5	12.9/12.9	12/12	81/81	86.5/86.5	21.6/21.6	4.8 / 4.8
Total	12516/12303	24.1/23.4	20/18.6	18.4/17	72.1/70.7	77.6/76.5	16.8/16.6	5.6 / 5.9

Source: Patent Tracking System Database, Innovation Alliances and Services, University of California Office of the President.

Notes:

- (1) Column 3A: Includes all inventions (i.e. from Column 1)  
Column 3B: Excludes inventions licensed without IP (granted patents or pending applications)  
Column 4A: Percentage of inventions licensed with some form of exclusivity (conditional upon being licensed).  
Column 4B: Percentage of inventions licensed with some form of exclusivity (conditional upon being licensed), excluding inventions that are licensed without IP (patents or pending applications)

In Columns 3B and 4B, we exclude inventions licensed without IP (patents or pending applications) for which the exact nature of the license is not clear. Two hundred and thirty seven inventions (1.9%) are licensed without IP. Many of these involve material transfer agreements (MTAs), but only three relate to corporate funded inventions. We exclude these 237 from the sample while noting that doing so understates the productivity of federal support in generating research tools and other materials.

- (2) “Other Sponsors” inventions report non-profit institutions, organizations (such as marketing boards) or state governments as sponsors, with no federal or corporate funding.
- (3) It is our understanding that inventions that do not disclose sponsorship information are likely to be either without outside funding, but often with intramural funding from startup packages for new faculty members, from industry-university alliances such as EBI, or from federal support that is so common that the inventors and possibly technology transfer agents might not record it explicitly.
- (4) Statistics reported in the text on % of patenting are in Column 2. The percentage is highest for federal-corporate funded inventions, then for corporate funded inventions, and lowest for federal funded ones, all significantly different at 1% level, either including or excluding inventions licensed to the sponsors.
- (5) Statistics reported in the text on % of licensing are in Column 3A. When including inventions licensed to the sponsors, the percentage is highest for federal-corporate funded inventions, then for corporate funded inventions, and lowest for federal funded ones, all significantly different at 1% level. When excluding inventions licensed to the sponsors, the share of federal-corporate funded inventions remains highest, significantly higher than that of corporate funded inventions and of federal funded inventions; the share of corporate funded inventions is significantly smaller than that of federally funded inventions.
- (6) Statistics reported in the text on % exclusive (conditional on licensing) are in Column 4B. When inventions licensed to the sponsors are included, federal, corporate and federal-corporate funded inventions are all similarly likely to be licensed exclusively. Excluding inventions licensed to the sponsors, the frequency of exclusivity in licenses to non-sponsors is significantly lower for corporate funded inventions than for federal and federal-corporate funded inventions; there is no significant difference between the latter two groups.
- (7) Statistics reported in the text on citation counts are in Column 6. The number of forward citations per invention for federal sponsored inventions is significantly smaller than for corporate and federal-corporate funded inventions, and there is no significant difference between the last two groups. This holds true whether including or excluding inventions licensed to the sponsors.

**Table S2: Distribution of invention disclosures by technology field**

Technology Field	Frequency	Percentage
Advanced material products and service	258	2.1
Computer systems, peripherals, accessories, and services	138	1.1
Electrical, electronic, electromechanical or mechanical, equipment services	201	1.6
Equipment and services for the analysis, protection and treatment of the environment	79	0.6
Equipment and services for the medical industry	628	5
Equipment and services for the transportation industry	30	0.2
Equipment and services relating to power generation	114	0.9
Factory automation equipment and services	71	0.6
Ground defense radar systems/ equipment	7	0.1
Pharmaceutical products and services	708	5.7
Photonic products and services	168	1.3
Plant material	1	0
Products and services related to chemical substances and processes	219	1.7
Products and services relating to biological sciences	2083	16.6
Software applications, systems, and services, middleware	183	1.5
Systems and services for manufacturing high-tech products	45	0.4
Telecommunications and internet services, Internet equipment, Web related services, Web related equipment.	86	0.7
Test, measurement, control, scientific, and laboratory equipment and services	113	0.9
UNCLASSIFIED	7384	59
Total	12516	100

Source: Patent Tracking System Database, Innovation Alliances and Services, University of California, Office of the President.

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