

Table INV-1

## Direct and indirect indicators of invention, knowledge transfer, and innovation used in the report and their sources

(Indicator, source, and measurement type)

Section	Indicator	Source	Measurement type
Invention Indicators: Protecting Useful Ideas	Number of USPTO utility patents granted to U.S. owners by type of grantee	USPTO	Direct
	Business ranking of importance of mechanisms for intellectual property protection	NCSES U.S. Census Bureau	Direct
	Number of world patent applications, by country income group	WIPO	Direct
	Number of international patent families granted, by selected region, country, or economy	EPO	Direct
	Number of USPTO utility patents granted, by selected region, country, or economy	USPTO	Direct
	Number of USPTO patents granted to inventors in selected countries, by field of technology	USPTO	Direct
	Number of USPTO utility patents by U.S. county	USPTO	Direct
	Proportion of patent applications by country with at least one woman applicant	WIPO	Direct
Knowledge Transfer: Making Information Available	Number of coauthored business sector publications with other academic, government, and foreign institutions	USPTO Elsevier SCOPUS	Direct
	Number of citations to S&E articles in USPTO utility patents, by article field and sector of assignee	USPTO Elsevier SCOPUS	Direct
	Number of university technology licenses or license options executed, by company characteristic	AUTM	Direct
	Total number of startups launched annually based on university technology	AUTM	Direct
	Number of startups supported by federal laboratories, by selected agency	NIST Department of Commerce	Indirect
	Number of technology transfer activities supported by federal laboratories, by selected agency	NIST Department of Commerce	Direct
	Number of firms supported by SBIR and STTR programs	Small Business Administration	Indirect
	Funding in millions of dollars by SBIR and STTR programs	Small Business Administration	Indirect
	International collaborations in development of open-source software by selected country	Robbins et al. 2021	Direct
	Number of open-source GitHub repositories shared by U.S. federal departments and agencies	Robbins et al. 2021	Direct
	Number of new firms and employment from new firms (less than 1 year old)	U.S. Census Bureau	Indirect
	Number of federally sponsored citizen science projects on citizenscience.gov, by agency	citizenscience.gov	Indirect
	Number of federal citizen science projects with specific participation tasks	citizenscience.gov	Indirect
Innovation: Introducing New Products and Processes	Number of U.S. companies introducing product or process innovation, by selected industry	NCSES U.S. Census Bureau	Direct
	Share of U.S. companies introducing product or process innovation, by selected industry	NCSES U.S. Census Bureau	Direct
	Share of innovating businesses that are female owned	NCSES U.S. Census Bureau	Direct
	Share of innovating businesses that are non-White owned	NCSES U.S. Census Bureau	Direct
	Number of registered USPTO trademarks, by selected region, country, or economy	USPTO	Direct
	Number of U.S.-registered USPTO trademarks, by business sector	USPTO	Direct

**Table INV-1****Direct and indirect indicators of invention, knowledge transfer, and innovation used in the report and their sources**

(Indicator, source, and measurement type)

Section	Indicator	Source	Measurement type
	Number of U.S.-registered USPTO trademarks, by selected Nice classification	USPTO	Direct
	Number of USPTO trademarks by U.S. county	USPTO	Direct
	Global venture capital investment in billions of dollars, by selected country or economy	PitchBook	Indirect
	Chinese share of U.S. venture capital investment, percentage and total dollars	PitchBook	Indirect
	U.S. venture capital investment in billions of dollars, by selected industry groupings or technology areas	PitchBook	Indirect
	U.S. share of Chinese venture capital investment, percentage and total dollars	PitchBook	Indirect
	Share of firms, job creation, and employment from firms 5 years old or younger	U.S. Census Bureau	Indirect

EPO = European Patent Office; NCSSES = National Center for Science and Engineering Statistics; NIST = National Institute of Standards and Technology; SBIR = Small Business Innovation Research; STTR = Small Business Technology Transfer; USPTO = U.S. Patent and Trademark Office; WIPO = World Intellectual Property Organization.

**Note(s):**

Direct measures use data that explicitly reflect on the rate, volume, and mix of invention and innovation outputs and knowledge transfer activities. Indirect measures are those that are correlated with these concepts but for which the linkage and impact must be inferred.

**Source(s):**

National Center for Science and Engineering Statistics; SRI International.

*Science and Engineering Indicators*