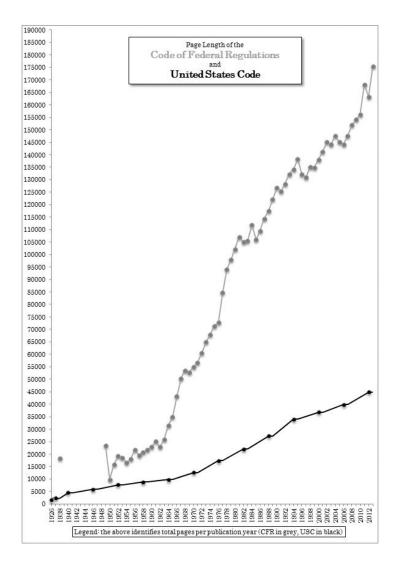
Journal of Legal Metrics

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hen we study law we are studying text, to one extent or another.¹ The graph on the cover of this issue of the *Journal of Legal Metrics* illustrates one approach to that study. It charts the extent to which two bodies of law – federal statutory and regulatory law – have increased over time. It does so by counting the pages in the *United States Code* and *Code of Federal Regulations* from first through the most recent editions.²

The general idea is not new: trace the growth of federal law over time.³ Never before, however, has a side-by-side measurement of federal statutory and regulatory text been compiled from first through current edition. This short essay provides a little background on those two federal codes, a note on the method used to compile the data, and a few observations, as well as the data itself in an appendix.

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¹ *Cf.* Antonin Scalia and Bryan Garner, *READING LAW: THE INTERPRETATION OF LEGAL TEXTS* xxvii (2012) ("Both your authors are textualists We hope to persuade our readers that this interpretive method is the soundest, most principled one that exists. But even those who are unpersuaded will remain, to a large degree, textualists themselves – whether or not they accept the title. While they may use legislative history, purposivism, or consequentialism at the margins, they will always begin with the text. Most will often end there."); Jonathan R. Siegel, *Textualism and Contextualism in Administrative Law*, 78 B.U. L. REV. 1023, 1057 (1998) ("In a significant sense, we are all textualists now."); Oliver Wendell Holmes, Jr., *The Path of the Law*, 10 HARV. L. REV. 457 passim (1897).

² More precisely, it does so from the first editions through the most recent editions for which apples-to-apples comparisons are possible. Because the most recent full edition of the United States Code is the 2012 edition, this essay's data and comparison runs through at that year, but no further. In passing, however, it bears noting that the 2013 edition of the *Code of Federal Regulations* had 175,496 pages (a 0.54% increase over the 2012 edition); the 2014 edition had 175,268 pages (a 0.13% decrease over the 2013 edition); and the 2015 edition has not yet been completed. Office of Federal Register, *Federal Register & CFR Publication Statistics – Aggregated Charts* (May 2015), *available at* https://www.federalregister.gov/uploads/2015/05/OFR-STATISTICS-CHARTS-ALL1-1-2014.pdf (last visited July 7, 2015).

³ See, e.g., Robert C. Ellickson, Taming Leviathan: Will the Centralizing Tide of the Twentieth Century Continue into the Twenty-First?, 74 S. CAL. L. REV. 101, 105 (2000).

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I. A LITTLE BACKGROUND A. United States Code

The United States Code is a collection of "the laws of the United States, general and permanent in their nature."⁴ That is, the code is a consolidation of federal statutes, organized based on broad subject matter into 54 titles.⁵ The titles, in turn, are subdivided into smaller units including subtitles, chapters, subchapters, parts, subparts, sections, subsections, paragraphs, subparagraphs, clauses, subclauses, and items, although not necessarily in that order.⁶

Twenty-seven titles are "positive law," meaning the titles' contents are the law itself.⁷ Surprisingly, the remaining titles are not. Their contents are merely rebuttable evidence of what the law is.⁸ The law itself with respect to these titles is to be found in the volumes of the United States Statutes at Large, which is the permanent collection of all laws and resolutions enacted during each session of Congress, organized in chronological order.⁹

Similarly startling is the relative youth of the *United States Code*. Although the Constitution was ratified in 1788 and the first Congress convened and began passing bills the following year, the first publication of the *United States Code* was not until in 1926. The graph adorning the cover of this issue of the *Journal of Legal Metrics*, as noted, illustrates the growth of that body of law from 1926 onwards. The story of what came before, however, is also one worth briefly retelling.¹⁰

⁴ 1 U.S.C. § 204(a) (2012). Temporary laws, such as appropriations acts, and special laws, such those naming a highway, are not included in the Code.

⁵ One of these titles (Title 34) has been repealed; another (Title 53) has been reserved. See generally U.S. House of Representatives, Office of the Law Revision Counsel, Detailed Guide to the United States Code Content and Features ("House Guide"), uscode.house.gov/detailed_guide.xhtml (last visited July 9, 2015).
⁶ House Guide, supra note 5.

 $^{^{7}}$ 1 U.S.C. § 204(a). Currently, the U.S. Code currently has 54 titles, of which the following 27 titles have been enacted into positive law: 1, 3, 4, 5, 9, 10, 11, 13, 14, 17, 18, 23, 28, 31, 32, 35, 36, 37, 38, 39, 40, 41, 44, 46, 49, 51, and 54. As noted, Title 34 has been repealed, Title 53 reserved. *House Guide, supra* note 5.

⁸ 1 U.S.C. § 204(a). See Stephan v. United States, 319 U.S. 423, 426 (1943); see generally Will Tress, Lost Laws: What We Can't Find in the United States Code, 40 GOLDEN GATE U.L REV. 129, 131-33 (2010). Among the rebuttable evidence titles are some of the most significant: Title 12 (Banks and Banking), Title 26 (Internal Revenue Code), and Title 42 (Public Health and Welfare).

⁹ 1 U.S.C. § 112; see generally Government Printing Office, *About United States Statutes at Large*, www. gpo.gov/help/index.html#about_united_states_statutes_at_large.htm (last visited July 9, 2015).

¹⁰ For a far more complete retelling, see Ralph H. Dwan and Ernest R. Feidler, The Federal Statutes

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The first law regarding the publishing of the laws of the United States was enacted in 1789.¹¹ During the first session of the first Congress, a law was enacted providing that when an act of Congress became law, the secretary of state was to preserve the original, deliver a copy to each congressperson, send two copies to each state's executive authority, and publish the law in at least three newspapers printed in the United States "as soon as conveniently may be."¹²

The first law regarding the official collection of the laws of the United States was enacted six years later. It ordered the printing of a complete edition of all public laws and treaties of the United States up to that date (i.e., 1795), with an index.¹³ The law also ordered that after each session of Congress, the laws enacted during that session were to be printed and distributed among the states and territories.¹⁴

The United States Statutes at Large came into being four decades later when in March 1845 a law was enacted directing the attorney general to contract with Messrs. Little and Brown to publish a thousand copies of the compiled laws and treaties of the United States in chronological order.¹⁵ The gentlemen completed the first edition the following year, an eightvolume work.¹⁶

In doing so, they "discovered errors in the original text of many laws. They copied such text, however, verbatim, and where something had to be added in order that the text might make sense, it was enclosed in brackets."¹⁷ And so it went for the next two decades. Little and Brown continued to compile, but not consolidate, federal laws in chronological order.¹⁸

As the compilation continued to expand, previously enacted laws con-

⁻ Their History and Use, 22 Minn. L. Rev. 1008 (1938). For a slightly more recent retelling, see Tress, supra note 8, at 133-36.

¹¹ 1 Stat. 68, ch. 14, *cited in* Dwan and Feidler, *supra* note 10, at 1008.

¹² Id.

¹³ 1 Stat. 443, ch. 50, *cited in* Tress, *supra* note 8, at 133.

¹⁴ Id.

¹⁵ 5 Stat. 798, *cited in* Dwan and Feidler, *supra* note 10, at 1010.

¹⁶ Dwan and Feidler, *supra* note 10, at 1010.

¹⁷ Dwan and Feidler, *supra* note 10, at 1011 n.17. Errors in statutory text, of course, are not confined to the nineteenth century. *See, e.g., King v. Burwell*, 576 U.S. (2015) (slip op. at 14) ("The Affordable Care Act contains more than a few examples of inartful drafting. To cite just one, the Act creates three separate Section 1563s." (Parenthesis omitted)).

¹⁸ Dwan and Feidler, *supra* note 10, at 1011-12.

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tinued to be repealed, superseded, or modified, with the result that it became "almost a practical impossibility to make a thorough search of the statutes on many subjects."¹⁹ Eventually, in 1866 a commission was formed to consolidate the Statutes at Large into a unified whole.²⁰ But the commission quickly found their task would require rewriting numerous laws, reporting to Congress: "Where several statutes relating to the same subject modify each other, it has been impossible to state their united effect without writing a new statute."²¹ Faced with the choice of writing a new statute or abandoning the task, the commission pressed on with its work.

The final product was presented to Congress in 1873, enacted in 1874, and published in 1875.²² In doing so, the federal government made a clean break with what had come before. When the Revised Statutes of 1873, as they came to be known, took effect, all preceding federal laws "embraced in any section were repealed."²³ This was the first time (and to date the only time) that a complete revision of all general and permanent statutes was enacted.²⁴ They were not well received.²⁵

While still on the printing presses, 69 mistakes and omissions were identified.²⁶ Congress hastily passed a law correcting these errors, which was printed as a four-page appendix to the Revised Statutes of 1873.²⁷ But these weren't the only errors and omissions in the text. Acts to fix other errors followed each successive year until 1878, when an amended and updated edition was published.²⁸

The updated edition of 1878, unlike its predecessor, was not enacted as positive law; rather, it was merely rebuttable evidence of what the law was. The reason was simple; "Congress, after its experience with the Revised Statutes of 1873, was reluctant to enact as law even a consolidation and revision of the statutes in a restricted field passed during only a four year period."²⁹

¹⁹ Dwan and Feidler, *supra* note 10, at 1011-12.

²⁰ Tress, *supra* note 8, at 134.

²¹ William Johnston and Charles James, Report of the Commissioners Appointed Under Act of June 27, 1866, S. Misc. Doc. 101 (1868), quoted in Tress, supra note 8, at 134.

²² Tress, *supra* note 8, at 134.

²³ 1 Rev. Stat. 1091, § 559 (1873), quoted in Tress, supra note 8, at 135.

²⁴ Dwan and Feidler, *supra* note 10, at 1012.

²⁵ Tress, *supra* note 8, at 135.

²⁶ Dwan and Feidler, *supra* note 10, at 1014.

²⁷ Dwan and Feidler, *supra* note 10, at 1014; Tress, *supra* note 8, at 135.

²⁸ Tress, *supra* note 8, at 135 and nn.35-36 (collecting laws).

²⁹ Dwan and Feidler, *supra* note 10, at 1015.

Four decades passed before serious work on consolidating the laws of the United States resumed. That work began in 1919, when the chairman of the House of Representatives' law revision committee, Colonel Little, undertook the task.³⁰ The Senate's law revision committee was underwhelmed with the results, however, identifying 600 errors.³¹ The two chambers then came up with a new plan: outsource the work to West Publishing Company and Edward Thompson Company.³²

The two publishing companies promptly set to work consolidating an authoritative code, which drew upon Colonel Little's work, was checked by various committees and departments, and was also checked by an outside expert.³³ Nevertheless, "glaring errors were discovered when the bill to enact the codification was before the Senate and House of Representatives."³⁴ (Unsurprisingly, the process of enacting the *United States Code* as positive law would not begin until 1947).³⁵

The 1926 edition was replaced by a new edition in 1934, with successive full editions following at six-year intervals.³⁶ The handsome graph on the cover of this issue and appendix concluding this essay detail the growth of that body of law, as well as the growth of federal regulatory law, discussed next.

B. Code of Federal Regulations

The *Code of Federal Regulations* is "the codification of the general and permanent rules published in the *Federal Register* by the departments and agencies of the Federal Government."³⁷ The purpose is straightforward: "to present the official and complete text of agency regulations in one or-

³⁰ Dwan and Feidler, *supra* note 10, at 1018-19.

³¹ Dwan and Feidler, *supra* note 10, at 1019.

³² Dwan and Feidler, *supra* note 10, at 1020. At the time, both companies were producing private compilations. For an entertaining discussion of the competition between these two companies, see generally Ross E. Davies, *How West Law Was Made: The Company, Its Products, and Its Promotions*, 6 Charleston L. Rev. 231, 241 (2012).

³³ Dwan and Feidler, *supra* note 10, at 1020.

³⁴ Dwan and Feidler, *supra* note 10, at 1020.

³⁵ See Preface to United States Code (1926) ("This Code is the official restatement in convenient form of the general and permanent laws of the United States. No new law is enacted and no law repealed. It is prima facie the law. The presumption is rebuttable."), *quoted in* Tress, *supra* note 8, at 136.

³⁶ More fully, editions were published in 1940, 1946, 1952, 1958, 1964, 1970, 1976, 1982, 1988, 1994, 2000, 2006, and 2012.

³⁷ U.S. Gov't Printing Office, *About Code of Federal Regulations*, www.gpo.gov/help/index.html# about_code_of_federal_regulations.htm (last visited July 9, 2015).

ganized publication."38

Like the United States Code, the Code of Federal Regulations is organized into titles. Titles, in turn, are organized into volumes. The 2014 edition of the Code of Federal Regulations, for instance, has 212 volumes. Volumes are organized into chapters, parts, subparts, sections, and subsections.

The *Code of Federal Regulations* is also a relatively recent development in the nation's history. Before 1936, the various federal agencies published their own regulations in their own publications, "be they gazettes, bulletins, rulings, digests, pamphlets, notices, codes, certificates, orders, and the like."³⁹ These regulations were not compiled in a single source, much less codified in a unified whole.

And the New Deal came. With the rapid expansion of agency regulations in the early 1930s, the public and the government itself found it increasingly difficult to keep track of what regulations had been issued, altered, and revoked. This difficulty was vividly on display on December 10, 1934, when at oral argument before the Supreme Court the assistant attorney general had to acknowledge that the executive order that the administration was defending "had been inadvertently revoked."⁴⁰

The next day, the president appointed a committee to study publishing a gazette containing executive branch orders.⁴¹ That same day, the *Harvard Law Review* published an article by Ervin Griswold entitled "Government in Ignorance of the Law – A Plea for Better Publication of Executive Legislation."⁴² Griswold's solution to this problem was "amazingly simple": "an official publication . . . in which all rules and regulations shall be systematically and uniformly published."⁴³

Within a year, Congress had passed the Federal Register Act, which Pres-

³⁸ National Archives, *About the CFR*, www.archives.gov/federal-register/cfr/about.html (last visited July 9, 2015).

³⁹ Rich McKinney, A Research Guide to the Federal Register and the Code of Federal Regulations, 46 Law Library Lights 10, 10 (2002), available at www.llsdc.org/assets/sourcebook/fall02.pdf (last visited July 9, 2015); see also Office of the Federal Register, A Brief History Commemorating the 70th Anniversary of the Publication of the First Issue of the Federal Register 2 (June 19, 2006) ("A Brief History of the Federal Register"), available at www.archives.gov/federal-register/the-federal-register/history.pdf (last visited July 9, 2015).

⁴⁰ McKinney, *supra* note 112, at 39.

⁴¹ McKinney, *supra* note 112, at 39.

⁴² 48 HARV. L. REV. 198 (1934).

⁴³ Id. at 205.

ident Roosevelt signed into law in July 1935.⁴⁴ The law directed agencies "to compile and file a complete set of all their documents that were in force as of January 26, 1936."⁴⁵ The documents, moreover, would be available for immediate public inspection and "could not be valid against any person until filed at the [newly-created] *Federal Register*."⁴⁶ The first edition of the *Federal Register* was published on March 14, 1936; it was 16 pages.⁴⁷

In 1938, the Federal Register Act was amended to require a "codification," not simple compilation, of federal agency regulations.⁴⁸ The first edition of the *Code of Federal Regulations* was published the same year. It had 15 volumes and "included all finalized regulations that were published in the *Federal Register* from March 14, 1936 to June 1, 1938, as well as those agency regulations deposited with the Archivist [of the United States], and still in effect, that may have been published by the agencies before March 14, 1936."⁴⁹

Supplements in separate volumes were published over the next several years (except for in 1942, because of the war effort), until the second full edition of the *Code of Federal Regulations* was published in 1949.⁵⁰ The growth from there, as noted, is illustrated on the cover of this issue and chronicled in the appendix following this essay.

II. A LITTLE DISCUSSION

A. The Method

The unit of measure used in this study is rough. On the subject, most are.⁵¹ About 15 years ago, for example, one writer took a tape measure to the *United States Code*.⁵² This study took a slightly more fine-grained

⁴⁵ A Brief History of the Federal Register, supra note 39, at 2. The full text of the Federal Register Act is available online at www.llsdc.org/assets/sourcebook/pl74-220-lh.pdf (last visited July 9, 2015).

⁴⁴ Pub. L. 74-220 (July 26, 1935), cited in A Brief History of the Federal Register, supra note 39, at 2.

⁴⁶ A Brief History of the Federal Register, supra note 39, at 2.

⁴⁷ A Brief History of the Federal Register, supra note 39, at 3.

⁴⁸ A Brief History of the Federal Register, supra note 39, at 4.

⁴⁹ McKinney, *supra* note 39, at 10.

⁵⁰ McKinney, *supra* note 39, at 10.

⁵¹ For a particularly fine treatment of this subject, however, see William P. Li et al., *Law is Code: A Software Engineering Approach to Analyzing the United States Code* (Sept. 21, 2014), *available at* papers.ssrn.com/sol3/papers.cfm?abstract_id=2511947 (last visited July 9, 2015).

 $[\]frac{52}{2}$ Ellickson, *supra* note 3, at 105 ("In 1928, the unannotated version of the *United States Code* appeared in two tall volumes that totaled six inches in width. The 1988 version of the unannotated Code included twenty-nine volumes that spanned six feet, a twelve-fold increase." (footnote omitted)).

approach, counting pages instead.⁵³

Specifically, to complete the study the pages in the *United States Code* were manually counted. Because the purpose was to measure the growth of the law, pages of statutory text were included in the count, but title pages, prefaces, tables of contents, tables of titles and chapters, tables of acts cited by popular names, and indexes were excluded. Partial pages of statutory text were included, blank pages excluded.

The process for gathering the *Code of Federal Regulations* data was far simpler; the data has been compiled by the Office of the Federal Register and is available on its website.⁵⁴ This data also has certain nuances, it should be noted, which are listed on that website and may be of some interest the punctilious scholar.⁵⁵

B. The Observations

The principal contribution of this essay is the raw data. Offered as a resource, the data is generally left to speak for itself. But two facets that may not be immediately obvious from the graph on the cover of this issue or the appendix following this essay also merit mention: (1) the specific rate of growth of the two bodies of law over time; and (2) the comparative size of the two bodies of law over time.

Regarding the first item, the overall percentage increase in page length of the *United States Code* from the 1926 edition to the 2012 edition was 2538%. The average rate of growth during this period was about 30% per year.

Additionally, although each successive edition of the *United States Code* increased in length over its predecessors, the specific rate of growth was not uniform. The largest increase, as one might expect, occurred during the New Deal era. The smallest occurred between 1994 and 2006. The following chart identifies the specific percentage increase for each edition over its predecessor (aside from the first edition, of course).

⁵³ Mitigating, albeit not entirely eliminating, the risk of typographical variations affecting the intraand inter-code comparison is that the print versions of the *United States Code* and *Code of Federal Regulations* are both published by the U.S. Government Printing Office.

⁵⁴ Office of Federal Register, *Federal Register & CFR Publication Statistics – Aggregated Charts* (May 2015), *available at* https://www.federalregister.gov/uploads/2015/05/OFR-STATISTICS-CHARTS-ALL1-1-1-2014.pdf (last visited July 7, 2015).

⁵⁵ For example, total page counts for 1950 through 1969 include revisions and pocket part supplements. *See id.*

Increase in length of <i>United States Code</i> over prior edition		
edition	% increase	
1926	n/a	
1934	33%	
1940	98%	
1946	32%	
1952	31%	
1958	13%	
1964	11%	
1970	28%	
1976	38%	
1982	27%	
1988	24%	
1994	24%	
2000	8%	
2006	8%	
2012	11%	

Of passing interest, this growth has also not been uniformly distributed across the various titles of the *United States Code*. The most dramatic growth has been in Title 42, "Public Health and Welfare." In the 1926 edition, the title spanned 11 pages.⁵⁶ In the 2012 edition, it spans 8,269 pages, an approximately 75,000% increase over this 86-year period. Assuming a steady rate of growth over the next 86-year period (a silly assumption, surely), around the turn of the next century, Title 42 will span about 6.2 million pages.

The *Code of Federal Regulations*, unlike the *United States Code*, has not increased in length with each successive edition. Rather, in the 63-year period from 1949, when the annual publication of new editions of the *Code of Federal Regulations* began, through 2012, the new editions were longer than their immediate predecessor 50 times, but shorter than their immediate predecessor 13 times. The overall increase in length during this period was 596%, for an average rate of growth of about 10% per year. The specific

⁵⁶ In 1926, this title was merely "Public Health."

year-to-year percentage change is available on the Office of the Federal Register's website.⁵⁷

Turning to the second facet, the comparative size of the two texts over time, the relative ratio has not varied as much as a cursory visual inspection of the graph might suggest. The first time full editions of both the *United States Code* and *Code of Federal Regulations* were published in the same year was 1952, which then recurred each six years through 2012.

The first half of that period (i.e., 1952–1982) saw a fairly steady increase in the relative ratio, with the *Code of Federal Regulations* increasing from about 250% longer than the *United States Code* to about 475% longer. The second half, however, saw a fairly steady decline in that ratio, as identified in the chart below.

Percent by which the page length of the Code of Federal Regulations exceeds the United States Code		
edition	% longer	
1952	248%	
1958	234%	
1964	322%	
1970	436%	
1976	420%	
1982	477%	
1988	430%	
1994	396%	
2000	375%	
2006	362%	
2012	364%	

These two facets, of course, are not the only aspects of the data that might merit attention. Additionally, other variables – national population, gross domestic product, political party control, to name just three – might be added to enrich the analysis.

⁵⁷ Office of Federal Register, Federal Register & CFR Publication Statistics – Aggregated Charts (May 2015), available at https://www.federalregister.gov/uploads/2015/05/OFR-STATISTICS-CHARTS-ALL1-1-1-2014.pdf (last visited July 7, 2015).

The aim of this study, however, was simpler. Compile a side-by-side comparison of the text of federal statutory and regulatory law from the first edition through the current edition. The goal was not to answer the question "What does the data say?" but "Where is the data in the first place?"⁵⁸ For the subject of this study, the answer is on the journal's cover and in the following appendix.

Year	CFR Pages	USC Pages
1926		1,705
1927		
1928		
1929		
1930		
1931		
1932		
1933		
1934		2,275
1938	18,193	
1939		
1940		4,499
1941		
1942		
1943		
1944		
1945		
1946		5,918
1947		
1948		
1949	23,454	
1950	9,745•	

Appendix

⁵⁸ See generally Journal of Legal Metrics, Introduction (Jan. 4, 2012), available at www.journal oflegalmetrics.org/2012/01/04/introduction/ (last visited July 10, 2015).

^{*} Total Pages for 1950 through 1969 includes revisions and pocket part supplements.

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Year	CFR Pages	USC Pages
1951	15,932	
1952	19,232	7,768
1953	18,464	
1954	16,502	
1955	17,989	
1956	21,651	
1957	19,589	
1958	20,643	8,807
1959	21,760	
1960	22,877	
1961	25,242	
1962	22,863	
1963	25,828	
1964	31,584	9,797
1965	34,783	
1966	43,118	
1967	50,375	
1968	53,513	
1969	52,863	
1970	54,834	12,582
1971	56,720	
1972	60,632*	
1973	64,872	
1974	67,860	
1975	71,224	
1976	72,740	17,326
1977	84,729	
1978	94,151	
1979	98,032	
1980	102,195	
1981	107,109	

[•] Total Pages for 1972 does not include the second revisions of titles 42 through 50, which were completed in October 1972.

Year	CFR Pages	USC Pages
1982	104,938	21,990
1983	105,654	
1984	111,830	
1985	105,935	
1986	109,509	
1987	114,337	
1988	117,480	27,308
1989	122,090	
1990	126,893	
1991	125,331	
1992	128,344	
1993	132,228	
1994	134,196	33,930
1995	138,186	
1996	132,112	
1997	131,060	
1998	135,127	
1999	134,932	
2000	138,049	36,786
2001	141,281	
2002	145,099	
2003	144,187	
2004	147,639	
2005	145,099	
2006	144,177	39,878
2007	147,639	
2008	151,973	
2009	154,107	
2010	156,010	
2011	168,159	
2012	163,333	44,905

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