

# GOLIATH BEATS DAVID: UNDOING THE LEAHY-SMITH AMERICA INVENTS ACT'S HARMFUL EFFECTS ON SMALL BUSINESSES<sup>1</sup>

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1. When referencing “small businesses,” this comment is also referring to startups and independent inventors. A startup is a company in “the first stage of its operations.” *Startup Definition*, INVESTOPEDIA, <http://www.investopedia.com/terms/s/startup.asp#axzz28wCVSP45> (last visited Nov. 11, 2012).

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[The America Invents Act] *will help startups and small business owners turn their ideas into products three times faster than they can today.* And it will improve patent quality and help give entrepreneurs the protection and the confidence they need to attract investment, to grow their businesses, and to hire more workers.<sup>2</sup>

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[T]he goal of the new *America Invents Act* is to create not just the simplest patent system, or the most precise patent system, but rather the most innovation-friendly and inventor-friendly patent system that reduces costs, *levels the playing field for businesses small and large*, and spurs economic growth.<sup>3</sup>

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**I. INTRODUCTION**

Both the President and the United States Patent and Trademark Office (the USPTO) Director, David Kappos, have lofty and admirable expectations regarding the America Invents Act (the AIA) and how it will help small businesses. However, the AIA falls short of these expectations in many ways, especially due to several unintended negative effects that the AIA will have on small businesses.

America runs on small businesses.<sup>4</sup> Defined by the U.S. Department of Commerce as any business employing less than five hundred employees,<sup>5</sup> small businesses have been the stabilizing force in the economy for years, as well as its primary economic growth stimulator.<sup>6</sup> In addition, small businesses are

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2. President Barack Obama, Remarks by the President at Signing of the America Invents Act (Sept. 16, 2011), *available at* <http://www.whitehouse.gov/the-press-office/2011/09/16/remarks-president-signing-america-invents-act> (emphasis added).

3. David Kappos, Under Secretary of Commerce for IP & Director of the USPTO, The America Invents Act and a Global Call for Harmonization (Sept. 22, 2011), *available at* [http://www.uspto.gov/news/speeches/2011/kappos\\_wipo.jsp](http://www.uspto.gov/news/speeches/2011/kappos_wipo.jsp) (emphasis added) [hereinafter Kappos, Harmonization].

4. See generally Mike Clough, *America Runs on Small Business*, AMERICA'S BEST BUSINESS PRACTICES (July 14, 2009), <http://bestbizpractices.org/2009/07/14/america-runs-on-small-business/>.

5. 157 CONG. REC. H4427 (2011).

6. *The Importance of Small Business to the US Economy*, EVOLVEYOURBIZ.COM,

very important to innovation.<sup>7</sup> Without technological innovation, the per capita growth in the economy would eventually drop to zero percent.<sup>8</sup> This drop can be attributed to the fact that small businesses are much quicker to adopt new and risky initiatives and facilitate structures that value original ideas.<sup>9</sup> On the other hand, big businesses in entrenched industries are less likely to adopt new technologies that disrupt their status quo.<sup>10</sup>

A recent study by the U.S. Small Business Administration's (SBA) Office of Advocacy listed 26.8 million businesses in the United States<sup>11</sup>—small businesses represent 99.7% of those businesses.<sup>12</sup> In fact, 60.8% of businesses have fewer than five employees.<sup>13</sup> This prevalence of small businesses also applies to high technology, high patenting-based industries as well: telecommunications technology (98%), software publishing (97%), aerospace products and parts manufacturing (92%), pharmaceuticals and medical manufacturing (90%), and semiconductor machinery manufacturing (87%).<sup>14</sup>

Due to this prevalence, small businesses employ more than half of the employees in the private sector.<sup>15</sup> More importantly,

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<http://www.evolveyourbiz.com/the-importance-of-small-business-to-the-us-economy.php> (last visited Apr. 24, 2012).

7. See PEREGRINE ANALYTICS, LLC, SMALL BUSINESS ADMINISTRATION, INNOVATION AND SMALL BUSINESS PERFORMANCE: EXAMINING THE RELATIONSHIP BETWEEN TECHNOLOGICAL INNOVATION AND THE WITHIN INDUSTRY DISTRIBUTIONS OF FAST GROWTH FIRMS 4 (Mar. 2006), available at <http://archive.sba.gov/advo/research/rs272tot.pdf> (noting that “small new firms are an important mechanism through which innovation and change are incorporated into the economic system”).

8. H.R. 1249, AMERICA INVENTS ACT – JOB CREATION (2011), available at <http://judiciary.house.gov/issues/Patent%20Reform%20PDFS/HR%201249%201%20p-ager%20%20Job%20Creation.pdf> (hereinafter JOB CREATION). In fact, technological innovation is linked to three-quarters of the post-World War II growth rate in America. *Id.*

9. C.J. ISOM & DAVID R. JARCZYK, CETERIS, INC., SBA OFFICE OF ADVOCACY, INNOVATION IN SMALL BUSINESSES: DRIVERS OF CHANGE AND VALUE USE 7 (2009), available at <http://archive.sba.gov/advo/research/rs342tot.pdf>.

10. See generally PEREGRINE ANALYTICS, LLC, *supra* note 7, at 7 (noting that “large established firms often have routines that are difficult to modify, which hinders their ability to use technology to drive firm growth”).

11. Clough, *supra* note 4.

12. 157 CONG. REC. H4427 (2011).

13. Clough, *supra* note 4.

14. *Id.*

15. 157 CONG. REC. H4427 (2011).

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small businesses create 60-80% of all new jobs.<sup>16</sup> Small businesses hire 40% of high tech workers (scientists, engineers, and computer programmers).<sup>17</sup> In contrast, while small businesses have been the primary creators of American jobs, big businesses have focused more on offshore, non-American jobs.<sup>18</sup>

Finally, small businesses produce thirteen times more patents per employee than large businesses.<sup>19</sup> This is important because patents are strong indicators of market potential for small businesses and startups and are essential to attracting necessary capital for future product development.<sup>20</sup> Also, intellectual property, such as patents, is considered the “premiere global currency for creating value for services and products, for all innovators, in all markets, and in all countries.”<sup>21</sup> Owning the patents for the technology directly correlates with success in acquiring the first and additional rounds of venture capital financing for small businesses.<sup>22</sup> Thus, when a small business faces any financial uncertainty and delay in receiving a patent, it also leads to a three-year delay in job creation.<sup>23</sup>

Despite serving as both a hotbed for innovation and as the nation’s primary job creators for years, small businesses were not at the forefront of the nation’s early economic policies.<sup>24</sup> It was not until the 1970s that Congress began to recognize the true value that small businesses added to job creation and economic development in the United States.<sup>25</sup>

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16. Major L. Clark, III & Radwan N. Saade, *The Role of Small Business in Economic Development of the United States: From the End of the Korean War (1953) to the Present*, at 6, OFFICE OF ADVOCACY, U.S. SMALL BUSINESS ADMINISTRATION (Sept. 2010), <http://www.sba.gov/advocacy/7540/12143>.

17. 157 CONG. REC. H4427 (2011).

18. Ron D. Katznelson, Downhill Patent Law Harmonization With What?, *The Overhaul of U.S. Patent Law* (Aug. 30, 2011), available at <http://www.lauderpartners.com/PatentReform/RonKatznelsonPres-PatentReform110830.pdf>.

19. *Id.*

20. David Kappos, Under Secretary of Commerce for IP & Director of the USPTO, *The America Invents Act: A Patent Law Game-Changer* (Nov. 4, 2011), available at [http://www.uspto.gov/news/speeches/2011/kappos\\_georgetown.jsp](http://www.uspto.gov/news/speeches/2011/kappos_georgetown.jsp).

21. Kappos, Harmonization, *supra* note 3.

22. JOB CREATION, *supra* note 8.

23. 157 CONG. REC. H4427 (2011).

24. Clark & Saade, *supra* note 16, at 6.

25. *Id.* at 8.

Continuing this focus on small businesses, on September 16, 2011, President Barack Obama signed the AIA into law, with the main provisions scheduled to go into effect on March 16, 2013.<sup>26</sup> The Obama administration has termed the AIA the most significant patent reform bill in the United States since the Patent Act of 1952, encouraging innovation, job creation, and economic growth.<sup>27</sup> The relevant changes made to the current patent system and incorporated into the AIA involve a switch from a “first-to-invent” system for receiving patents to a “first-inventor-to-file” system, a creation of a new “post-grant” review system that provides an additional avenue to challenge patents, as well as the elimination of “best mode” as a defense to patent infringement.<sup>28</sup>

This Comment analyzes the unintended consequences of the AIA on small businesses and proposes potential solutions. Additionally, this Comment highlights how the drafters of the AIA did not foresee such consequences, or consider them relevant, at the time of its drafting. The main unintended consequence is that, due to their massive financial resources, big businesses will be able to file patent applications faster than small businesses, leading to more big business patents being granted than small business patents.<sup>29</sup> Also, the AIA will lead to an increase in the backlog of pending patents in the USPTO.<sup>30</sup> These obstacles for small businesses will directly hamper the economy and slow overall job growth.

In light of this, Congress should amend the AIA to include specific provisions protecting small businesses. First, due to the extreme importance of small businesses to the overall economy and net job growth, a provision could be included to allow small businesses to *choose* to be judged by either the first-to-invent or first-inventor-to-file systems when applying for patents.<sup>31</sup> While

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26. See *America Invents Act: Effective Dates*, U.S. PATENT AND TRADEMARK OFFICE (Oct. 5, 2011), [http://www.uspto.gov/aia\\_implementation/aia-effective-dates.pdf](http://www.uspto.gov/aia_implementation/aia-effective-dates.pdf); see also *America Invents Act of 2011*, COMMITTEE ON THE JUDICIARY, U.S. HOUSE OF REPRESENTATIVES, [http://judiciary.house.gov/issues/issues\\_patentreformact2011.html](http://judiciary.house.gov/issues/issues_patentreformact2011.html) [hereinafter *America Invents Act: Effective Dates*].

27. *Id.*

28. For an explanation of these terms, see *infra* Section II.C.

29. See *infra* Section III.B.

30. See *infra* Section III.C.

31. Both systems will be more fully described *infra* in Section IV.A.

this “multi-system” for small businesses might appear inefficient, it is fair, considering the extreme advantage big businesses will have once the current provisions of the AIA are fully implemented.<sup>32</sup> This solution levels the playing field between small and big businesses, which is important in maintaining the American entrepreneurial spirit and furthering America’s status as a leader of innovation and technology.

Second, the “grace period”<sup>33</sup> should be extended to give small businesses more time to perfect their invention before submitting a patent application. Third, post-grant review proceedings should be removed because they provide potential infringers with additional opportunities to challenge and delay the granting of patents. Lastly, the new “best mode” requirement should be either amended to its original form or removed entirely because, as it stands, it presents numerous disadvantages to patentees without providing any corresponding advantages.

Section II of this Comment provides a broad background on patent law in the United States, from its conception to the recent enactment of the AIA. Section III then highlights intended and unintended effects of the AIA on small businesses. Finally, Section IV proposes ways that the AIA could be amended to negate such unintended effects on small businesses, addresses likely counter-arguments against the proposed amendments, and defends the proposals against these counter-arguments.

## II. PATENT LAW IN THE UNITED STATES: FROM ITS ORIGINS TO THE AMERICA INVENTS ACT OF 2011

Before analyzing how the AIA affects small businesses, it is important to understand the origins of the patent system, as well as how the provisions of the old and new patent systems differ. This section provides a broad background of patent law in the United States, from its conception to the recent enactment of the AIA. Before doing so, Subsection A gives a general explanation of

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32. The reason big businesses will have numerous advantages over small businesses will be described *infra* in Section IV.B-C.

33. A feature unique to American patent law, the grace period is a twelve-month time period within which an inventor has to decide whether to file a patent application after public disclosure or first sale of the invention, or lose the right to do so. *First-to-File v. First-to-Invent: Who Really Benefits from Changing the U.S. Patent System?*, WEALTH OF IDEAS NEWSLETTER, GENERAL PATENT CORP. (Oct. 2007), <http://www.generalpatent.com/first-file-vs-first-invent-who-really-benefits-changing-u-s-patent-system> [hereinafter WEALTH OF IDEAS].

patents, as well as the USPTO; Subsection B explores the origins of the current patent system, pre-AIA, as well as several associated problems affecting small businesses; and Subsection C compares and analyzes specific provisions of the patent system pre- and post-AIA.

## A. GENERAL BACKGROUND ON PATENT LAW

### 1. PATENTS

A patent is a property right giving an inventor the right to “exclude others from making, using, offering for sale, selling, or importing” the invention throughout or into the United States.<sup>34</sup> Congress derives its authority to enact laws regarding patents from the Patent Clause of the U.S. Constitution, which states that “Congress shall have the power . . . [t]o promote the Progress of Science and useful Arts, by securing for limited Times to Authors and Inventors the exclusive Right to their respective Writings and Discoveries.”<sup>35</sup> This language has been interpreted to suggest that the American patent system has an inherent economic rationale due to a broad exclusionary right being offered as an incentive to innovation.<sup>36</sup> Three types of patents exist: utility, design, and plant patents.<sup>37</sup> The life of the most common utility patent expires twenty years after the filing of its patent application,<sup>38</sup> after which it enters the public domain.<sup>39</sup>

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34. *General Information Concerning Patents*, U.S. PATENT & TRADEMARK OFFICE (Nov. 2011),

[http://www.uspto.gov/patents/resources/general\\_info\\_concerning\\_patents.pdf](http://www.uspto.gov/patents/resources/general_info_concerning_patents.pdf) [hereinafter *Information Concerning Patents*].

35. See U.S. CONST. art. I, § 8, cl. 8.

36. See John M. Conley, *Gene Patents and the Product of Nature Doctrine*, 84 CHI.-KENT L. REV. 109 (2009).

37. *Information Concerning Patents*, *supra* note 34, at 1-2. Utility patents may be “granted to anyone who invents or discovers any new and useful process, machine, article of manufacture, or composition of matter, or any new and useful improvement thereof.” *Id.* at 2. Design patents may be “granted to anyone who invents a new, original, and ornamental design for an article of manufacture.” *Id.* Plant patents may be “granted to anyone who invents or discovers and asexually reproduces any distinct and new variety of plant.” *Id.*

38. See 35 U.S.C. § 154(a)(2) (2012). This twenty-year term for a utility patent can be extended or reduced, subject to various factors listed in a Patent Term Adjustment statute. See 35 U.S.C. § 154(b) (2012).

39. Lauren M. Dunne, “Come, Let Us Return To Reason”: *Association of Molecular Pathology v. USPTO*, 20 DEPAUL J. ART, TECH. & INTELL. PROP. L. 473, 483 (2010). Public domain is defined as the “realm of publications, inventions, and processes that are not protected by copyright or patent . . . . Things in the public domain can be

An inventor applying for a patent must file a patent application, containing specific provisions, to the USPTO.<sup>40</sup> Generally, when applying for a patent, inventors hire a patent attorney or patent agent<sup>41</sup> to help draft a patent application.<sup>42</sup> In order to “prosecute” (or prepare) a patent application before the USPTO, a patent attorney must pass a separate patent bar exam.<sup>43</sup> A patent agent can only prosecute a patent application before the USPTO, while a patent attorney can both prosecute and litigate a patent application in the courts.<sup>44</sup> Because of this dual expertise regarding patent applications, patent attorney fees are generally exorbitant.<sup>45</sup> These fees present a major obstacle to small businesses with limited financial assets attempting to send a well-drafted patent application to the USPTO.<sup>46</sup>

## 2. THE UNITED STATES PATENT AND TRADEMARK OFFICE (USPTO)

Congress established the USPTO to grant patents for the protection of inventions, as well as to register trademarks.<sup>47</sup> The USPTO promotes technological and industrial progress in the United States through the “preservation, classification, and dissemination” of patent information.<sup>48</sup> Additionally, the USPTO performs a rigorous and substantial examination of a patent application before granting a patent, with the threshold issue being the determination of patentable subject matter, or

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appropriated by anyone without liability for infringement.” BLACK’S LAW DICTIONARY 1243 (7th ed. 1999).

40. *Information Concerning Patents*, *supra* note 34, at 9. This includes a “specification” containing a description and claims of the invention, drawings when necessary, an oath or declaration, as well as filing, search, and examination fees. *Id.*

41. *Id.* at 7. Patent agents are not attorneys at law but are allowed to prepare a patent application. *Id.* However, they cannot conduct litigation in the courts regarding the patent. *Id.*

42. *Id.*

43. *See Information Concerning Patents*, *supra* note 34, at 7 (noting that [t]o be admitted to this register, a person must comply with the regulations prescribed by the Office, which require a showing that the person is of good moral character and of good repute and that he/she has the legal, and scientific and technical qualifications necessary to render applicants for patents a valuable service . . . . Those admitted to the examination must have a college degree in engineering or physical science or the equivalent of such a degree.).

44. *Id.*

45. *See infra* Section III.A.1.

46. *See infra* Section III.A.1.

47. *Information Concerning Patents*, *supra* note 34, at 1.

48. *Id.*

“eligibility.”<sup>49</sup> Furthermore, the patentee is entitled to the initial presumption of patent validity unless proven otherwise.<sup>50</sup> The examination of patent applications is divided amongst various technology centers (TC), each having jurisdiction over certain assigned fields of technology.<sup>51</sup>

The patent examiner first makes the eligibility determination by considering whether, pursuant to the Patent Act, the invention concerns “any new and useful process, machine, manufacture, or composition of matter, or any new and useful improvement thereof.”<sup>52</sup> Next, the patentee must establish the “novelty,”<sup>53</sup> “utility,”<sup>54</sup> and “non-obviousness”<sup>55</sup> of his invention.<sup>56</sup> Finally, the patent application’s “specification” must contain a “written description of the invention,” and the “process of making and using it,” in detailed terms such as to enable a person skilled in the art to do the same.<sup>57</sup> To make an effective determination of the patentability of an invention, the USPTO imposed and codified a duty of “candor and good faith” on the patent applicant.<sup>58</sup>

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49. Dunne, *supra* note 39, at 482-83; *see also* State St. Bank & Trust Co. v. Signature Fin. Grp., Inc., 149 F.3d 1368, 1372 n.2 (Fed. Cir. 1998) (citing *In Re Bergy*, 596 F. 2d 952, 960 (CCPA 1979)) (noting subject matter eligibility as the “first door” on the difficult path to patentability).

50. *See* Jason Rantanen & Lee Petherbridge, *Therasense v. Becton Dickinson: A First Impression*, 14 YALE J.L. & TECH. 226 (2012), available at [http://papers.ssrn.com/sol3/papers.cfm?abstract\\_id=1859764###](http://papers.ssrn.com/sol3/papers.cfm?abstract_id=1859764###).

51. *Information Concerning Patents*, *supra* note 34, at 4.

52. 35 U.S.C. § 101 (2012). Although Congress initially intended patentable subject matter to be “anything under the sun that is made by man,” the Supreme Court later stated that “laws of nature, physical phenomena, and abstract ideas” are not patentable. *Diamond v. Chakrabarty*, 447 U.S. 303, 309 (1980).

53. *See* 35 U.S.C. § 101 (2012) (stating that a new invention or discovery must be “new” and “useful”); *see also* 35 U.S.C. § 102(a) (2002) (stating that a person shall be entitled to a patent unless “(a) the invention was known or used by others in this country, or patented or described in a printed publication in this or a foreign country, before the invention thereof by the applicant for patent”).

54. 35 U.S.C. § 101 (2012).

55. *See* 35 U.S.C. § 103(a) (2012) (noting that a patent may not be obtained . . . if the differences between the subject matter sought to be patented and the prior art are such that the subject matter as a whole would have been obvious at the time the invention was made to a person having ordinary skill in the art).

56. Dunne, *supra* note 39, at 483.

57. *See* 35 U.S.C. § 112(a) (2012). Meeting this “enablement” requirement also proves that the applicant is actually in possession of the invention. Conley, *supra* note 36, at 115.

58. *See* 37 C.F.R. § 1.56 (2012). Also referred to as “Rule 56,” this duty includes a

If the examiner rejects an application, the patent applicant can appeal to the Board of Patent Appeals and Interferences, with a review by the Director of the USPTO on other matters by petition.<sup>59</sup> However, the USPTO has no jurisdiction over questions relating to infringement of patents.<sup>60</sup> Regardless of issuance, the USPTO publishes patents eighteen months from the earliest application filing date.<sup>61</sup>

The USPTO has faced several problems in recent years, the main one being a backlog of more than 650,000 pending patents.<sup>62</sup> Due to this backlog, a patent now takes more than three years to be granted.<sup>63</sup> This long delay comparatively hurts small businesses more than big businesses, and in turn, affects the entire patent system.<sup>64</sup>

## B. THE CURRENT PATENT SYSTEM

*The patent system . . . added the fuel of interest to the fire of genius.*—Abraham Lincoln.<sup>65</sup>

The Patent Clause grants Congress the authority to enact patent laws for the primary purpose of promoting the progress of science and the useful arts.<sup>66</sup> Rewarding inventors for their discoveries is only a secondary purpose and a means to achieve this primary purpose.<sup>67</sup> As a result, the patent system has been

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duty to disclose to the USPTO any information “material” to the patentability of an invention. Stephen M. Lund, Note, *Adjusting the Individual Duty of Disclosure to Meet the Reality of Corporate Participation in Patent Prosecution*, 3 DREXEL L. REV. 583, 584 (2011). The Federal Circuit explicitly abrogated the USPTO’s Rule 56 definition of materiality in *Therasense*. See *infra* Part IV.B.

59. *Information Concerning Patents*, *supra* note 34, at 4.

60. *Id.* at 27. Instead, suits for patent infringement follow the rules of procedure of the federal courts. *Id.*

61. *Id.* at 4.

62. *President Obama Signs America Invents Act, Overhauling the Patent System to Stimulate Economic Growth, and Announces New Steps to Help Entrepreneurs Create Jobs*, WHITE HOUSE, OFFICE OF THE PRESS SECRETARY (Sept. 16, 2011), <http://www.whitehouse.gov/the-press-office/2011/09/16/president-obama-signs-america-invents-act-overhauling-patent-system-stim> [hereinafter WHITE HOUSE, OFFICE OF THE PRESS SECRETARY].

63. *America Invents Act: Effective Dates*, *supra* note 26.

64. Gary Lauder, *Venture Capital – The Buck Stops Where?*, 2 MED. INNOVATION & BUS. 14, 19 (2010) [hereinafter Lauder, *Venture Capital*]; see also *infra* Section II.B.2.

65. Dunne, *supra* note 39, at 480.

66. U.S. CONST. art. I, § 8, cl. 8.

67. Efthimios Parasidis, *A Uniform Framework for Patent Eligibility*, 85 TUL. L.

described as “a carefully crafted bargain that encourages both the creation and the public disclosure of new and useful advances in technology, in return for an exclusive monopoly for a limited period of time.”<sup>68</sup> The next two subsections provide the origins and reasoning behind the creation of the patent system to illustrate why the changes in the AIA are important in the long term and shed light on the main problems in the current patent system affecting small businesses: the massive backlog of pending patents at the USPTO, and the low quality of patents granted by the USPTO.

### 1. ORIGINS OF THE CURRENT PATENT SYSTEM

Most observers consider the first patent system to have arisen in Venice in the late fifteenth century.<sup>69</sup> The Venetian Republic enacted the first true patent statute on March 19, 1474.<sup>70</sup> This patent statute bore a remarkable resemblance to the current U.S. patent system.<sup>71</sup> The opening of trade in Europe assured that this concept of patents would spread to other European countries, especially Great Britain.<sup>72</sup> By the seventeenth century, the English Crown routinely awarded importation franchises and other exclusive rights as patents.<sup>73</sup>

However, the patents became subject to abuse—issuance became less of an incentive for inventors of new arts and more of a royal favor given to well-placed subjects.<sup>74</sup> Armed with patents, the favored subjects started gaining control over long-established industries.<sup>75</sup> In response, the English Parliament enacted the Statute of Monopolies of 1624, which forbade all exclusive privilege grants except for the “true and first inventors” described in Section 6 of the statute.<sup>76</sup>

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REV. 323, 330 (2010).

68. *Pfaff v. Wells Elec. Inc.*, 525 U.S. 55, 63 (1998).

69. ROBERT P. MERGES ET AL., *INTELLECTUAL PROPERTY IN THE NEW TECHNOLOGICAL AGE* 125 (5th ed. 2010).

70. MARTIN J. ADELMAN ET AL., *CASES AND MATERIALS ON PATENT LAW* 8 (3d ed. 2009).

71. *Id.* at 8 (discussing that the invention must be “new, useful, and reduced to practice,” provision included for a ten-year term, along with a registration and remedial scheme).

72. MERGES, *supra* note 69, at 126.

73. ADELMAN, *supra* note 70, at 9.

74. MERGES, *supra* note 69, at 126.

75. ADELMAN, *supra* note 70, at 9.

76. MERGES, *supra* note 69, at 126. Section 6 stated:

This Section 6 exception is the foundation of current patent law.<sup>77</sup> Soon after the enactment of the Statute of Monopolies, patents were introduced into the American colonies.<sup>78</sup> Beginning with Massachusetts in 1641, states granted numerous patents.<sup>79</sup> However, many interstate conflicts began arising among competing inventors, the most notable being over steamboat patents.<sup>80</sup> Records from the Constitutional Convention of 1787 show Charles Pinckney as the first to propose the creation of a national patent power to resolve such interstate disputes.<sup>81</sup> The Patent Clause later arose from Mr. Pinckney's proposal in the Constitutional Convention of 1789.<sup>82</sup>

Congress soon enacted the first patent act.<sup>83</sup> The Patent Act of 1790 provided that a patent could be repealed if it was determined that the owner was not the "first and true inventor or discoverer."<sup>84</sup> The Patent Act of 1790 also vested a three-member board with the power to grant patents.<sup>85</sup> However, due to the onerous nature of such duties, Congress abandoned the three-member examination board in favor of a registration scheme.<sup>86</sup> Noticing that the registration system encouraged fraudulent patents, Congress again returned to an examination system with the Patent Act of 1836.<sup>87</sup> Following the re-instatement of the examination system, the patent system grew at an incredible pace, especially regarding the number of patents issued and

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[B]e it declared and enacted that any declaration before mentioned shall not extend to any letters patent and grants of privilege for the term of fourteen years or under, hereafter to be made of the sole working or making of any manner of new manufactures within this realm, to the *true and first inventors* of such manufacture . . . .

(emphasis added). MERGES, *supra* note 69, at 126.

77. ADELMAN, *supra* note 70, at 9.

78. MERGES, *supra* note 69, at 127.

79. *Id.*

80. *Id.*

81. ADELMAN, *supra* note 70, at 10.

82. *Id.*

83. Patent Act of 1790, Ch. 7, 1 Stat. 109, 109-12 (Apr. 10, 1790).

84. Karen E. Simon, *The Patent Reform Act's Proposed First-to-File Standard: Needed Reform or Constitutional Blunder?*, 6 J. MARSHALL REV. INTELL. PROP. L. 129, 134 (2006); Patent Act of 1790, § 5, 1 Stat. 109, 111.

85. ADELMAN, *supra* note 70, at 12; Simon, *supra* note 84, at 134.

86. ADELMAN, *supra* note 70, at 12; Patent Act of 1793, Ch. 11, 2 Stat. 318 (Feb. 21, 1793). The three-member board consisted of Thomas Jefferson, Henry Knox, and Edmund Randolph. ADELMAN, *supra* note 70, at 12.

87. ADELMAN, *supra* note 70, at 12; Patent Act of 1836, Ch. 357, 5 Stat. 117 (July 4, 1836).

inventions patented.<sup>88</sup>

During the twentieth century, the level of protection for patents provided by courts fluctuated.<sup>89</sup> Initially, a number of anti-competitive acts by large companies with huge patent portfolios led to an extreme distrust of patents.<sup>90</sup> Consequently, the Supreme Court struck down patents so frequently that Justice Jackson once stated in a dissent that “the only patent that is valid is one which this Court has not been able to get its hands on.”<sup>91</sup> However, the pendulum swung back in favor of patent protection in the 1940s.<sup>92</sup> World War II and its aftermath forced the United States to call upon its engineers and scientists to innovate, experiment, and perfect a number of new technologies.<sup>93</sup> America’s new position as a global economic leader and need for continued incentives in research and development convinced Congress to reform the patent system by enacting the Patent Act of 1952,<sup>94</sup> which is the current federal patent law.<sup>95</sup> By the 1960s, the USPTO issued patents freely, often without rigorous examination.<sup>96</sup> Due to this lack of rigorous examination prior to granting patents, the same patents were frequently reversed upon review in the federal circuit courts.<sup>97</sup>

With the goal of improving uniformity in patent law, Congress created the United States Court of Appeals for the Federal Circuit in 1982.<sup>98</sup> The Federal Circuit has been called “perhaps the single most significant institutional innovation in the field of intellectual property in the last quarter-century.”<sup>99</sup>

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88. MERGES, *supra* note 69, at 128.

89. *Id.* at 129.

90. *Id.*; ADELMAN, *supra* note 70, at 13.

91. ADELMAN, *supra* note 70, at 14; *Jungersen v. Ostby & Barton Co.*, 335 U.S. 560, 572 (1949) (Jackson, J., dissenting).

92. MERGES, *supra* note 69, at 129.

93. *Id.*

94. ADELMAN, *supra* note 70, at 14.

95. Dunne, *supra* note 39, at 482.

96. MERGES, *supra* note 69, at 129.

97. *Id.*

98. Craig Allen Nard & John F. Duffy, *Rethinking Patent Law’s Uniformity Principle*, 101 NW. U. L. REV. 1619, 1620 (2007); *see also* S. REP. NO. 97-275, at 2 (1981).

99. Nard & Duffy, *supra* note 98, at 1620 n.4. Congress granted the new court “exclusive, nationwide jurisdiction over all appeals from final decisions of federal district courts in cases where the jurisdiction of the court was based, ‘in whole or in part,’ on ‘any civil action arising under any Act of Congress relating to patents.’”

While the Federal Circuit received high praise in its first decade of existence for achieving a level of uniformity in its precedent,<sup>100</sup> this enthusiasm declined over the next few decades.<sup>101</sup> Still, practitioners have approved of the Federal Circuit<sup>102</sup> because more patents are held valid now than in previous years.<sup>103</sup>

Currently, more patents are sought and enforced than ever before, and more attention is being paid to patents in business transactions and various industries.<sup>104</sup> Furthermore, the overall economic and societal significance of patent grants, judgments, settlements, and licenses are at an all-time high, and are only expected to increase as the United States becomes more of a high-technology, knowledge-based economy.<sup>105</sup> Thus, a fair and balanced patent system is essential to promoting job creation, economic growth, and global competitiveness.<sup>106</sup>

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Larry D. Thompson, Jr., *Adrift on a Sea of Uncertainty: Preserving Uniformity in Patent Law Post-Vornado through Deference to the Federal Circuit*, 92 GEO. L.J. 523, 525 (2004); *see also* 28 U.S.C. § 1295(a)(1) (2010); 28 U.S.C. § 1338(a) (2010). Specifically, the Federal Circuit has nationwide jurisdiction over numerous subject areas, including “international trade, government contracts, patents, trademarks, certain money claims against the United States government, federal personnel, veterans’ benefits, and public safety officers’ benefits claims.” *Court Jurisdiction*, U.S. COURT OF APPEALS FOR THE FED. CIRCUIT, <http://www.ca9.uscourts.gov/the-court/court-jurisdiction.html> (last visited Nov. 12, 2012). Appeals in the Federal Circuit are heard by panels consisting of three judges selected randomly out of twelve active judges appointed by the President. *Id.* Upon losing an appeal in the Federal Circuit, a party may then seek a review of the decision in the Supreme Court of the United States. *Id.*

100. Nard & Duffy, *supra* note 98, at 1620 n.5; *see also* Rochelle C. Dreyfuss, *The Federal Circuit: A Case Study in Specialized Courts*, 64 N.Y.U. L. REV. 1, 74 (1989) (noting that the Federal Circuit “experiment” has worked well for patent law, making it more uniform and responsive to national interests).

101. *See generally* Nard & Duffy, *supra* note 98, at 1621-22; John R. Thomas, *Formalism at the Federal Circuit*, 52 AM. U. L. REV. 771, 773 (2003) (attributing the court’s holdings to increased costs of patent acquisition, additional burdens of patent administration, and more free riders).

102. Rochelle C. Dreyfuss, *The Federal Circuit: A Continuing Experiment in Specialization*, 54 CASE W. RES. L. REV. 769, 770 (2004) (noting that practitioners generally agree that centralizing patent appeals in a single court still constitutes a vast improvement over regional adjudication).

103. MERGES, *supra* 69, at 129.

104. Wendy H. Schacht & John R. Thomas, *The Leahy-Smith America Invents Act: Innovation Issues*, at 1, CONGRESSIONAL RESEARCH SERV. (Jan. 24, 2012), <http://www.ieceeusa.org/policy/eyeonwashington/2012/documents/innovationissuesAIA.pdf>.

105. *Id.*

106. JOB CREATION, *supra* note 8.

## 2. PROBLEMS WITH THE CURRENT PATENT SYSTEM AFFECTING SMALL BUSINESSES

As the importance of the patent system grows, concerns have been raised about the state of the current system, with many commenters calling it “broken.”<sup>107</sup> Two issues often raised include: (a) a massive backlog of pending patents at the USPTO, and (b) an overall lack of quality among issued patents.

### a. Pending Patent Backlog

The backlog of over 650,000 pending patents is partially attributed to a shortage of qualified patent examiners.<sup>108</sup> Patent applications are received at a rate of over 450,000 applications per year, and the USPTO only has approximately 3,250 examiners with the power to grant patents.<sup>109</sup> The inevitable backlog created by these circumstances leads to a significant wait time between a first response to an application and subsequent correspondence.<sup>110</sup> Overall, it takes over three years to get a patent approved in the United States.<sup>111</sup> The main issue for patentees, especially small businesses, arising out of these pending patents is that their entitled twenty-year term gets reduced.<sup>112</sup> Due to the fast-rising pace of technology, a small business that is entirely financially dependent on the issuance of a patent for one technology might have a worthless or less

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107. See James Temple, *Google Lawyer: Why the Patent System is Broken*, SAN FRANCISCO CHRONICLE, Nov. 6, 2011, <http://www.sfgate.com/cgi-bin/article.cgi?f=%2Fc%2Fa%2F2011%2F11%2F05%2FBUQP1LQN3V.DTL>; see also Josh Lerner, HARVARD UNIV. & NAT'L BUREAU OF ECON. RES., *Our Broken Patent System*, available at [http://www.kauffman.org/uploadedFiles/Lerner\\_Josh.pdf](http://www.kauffman.org/uploadedFiles/Lerner_Josh.pdf); Michael J. Burstein, *Rules for Patents*, 52 WM. & MARY L. REV. 1747, 1750 (2011).

108. WHITE HOUSE, OFFICE OF THE PRESS SECRETARY, *supra* note 62; Jason Mazzone & Matthew Moore, *The Secret Life of Patents*, 48 WASHBURN L.J. 33, 52 (2008). The minimum qualification to be a patent examiner is American citizenship and a bachelor's degree in a physical science, life science, engineering discipline or computer science. *View Jobs*, U.S. PATENT TRADEMARK OFFICE, <http://usptocareers.gov/Pages/PEPositions/Jobs.aspx> (last visited Jan. 10, 2012).

109. *Information Concerning Patents*, *supra* note 34, at 4.

110. See Arti K. Rai, *Growing Pains in the Administrative State: The Patent Office's Troubled Quest for Managerial Control*, 157 U. PA. L. REV. 2051, 2058 (2009).

111. *America Invents Act: Effective Dates*, *supra* note 26.

112. See Benjamin N. Roin, *Unpatentable Drugs and the Standards of Patentability*, 87 TEX. L. REV. 503, 568 (2010); Katherine N. Addison, *The Impact of the Biosimilars Provision of the Health Care Reform Bill on Innovation Investments*, 10 J. MARSHALL REV. INTELL. PROP. L. 553, 579 (2011). As mentioned *infra*, the life of the most common utility patent expires twenty years after the *filing*, not *grant*, of its patent application. See 35 U.S.C. § 154(a)(2) (2012).

valuable patent by the time it is granted.<sup>113</sup> In comparison, it can be inferred that a big business with thousands of patents is unlikely to be entirely dependent on one patent to survive. Thus, compared to big businesses, this reduced term provides a lesser incentive for small businesses to innovate than ever before.

Also, the current three-year waiting period for receiving patents makes it impossible for many small businesses to receive necessary venture capital to run their business.<sup>114</sup> In fact, 76% of startups reported that venture capital investors consider the availability of patents when making funding decisions.<sup>115</sup> As stated in Section I, owning the patents for the technology directly correlates with success in acquiring the first and additional rounds of venture capital financing.<sup>116</sup> Therefore, when a small business faces such financial uncertainty, the three-year delay in receiving a patent also leads to a three-year delay in starting up their business, and thus a three-year delay in job creation.<sup>117</sup>

#### b. Low Patent Quality

The United States' reputation as a world-leader in scientific discovery and development is often attributed to its eagerness to grant patents.<sup>118</sup> Unfortunately, such eagerness has resulted in a large number of "low quality" patents granted.<sup>119</sup> Low quality patents are questionable or bizarre patents routinely granted by the understaffed USPTO.<sup>120</sup> Examples of such patents include the crustless peanut butter and jelly sandwich and a decorative box that can be placed in a casket.<sup>121</sup> These low quality patents

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113. See Letter from Steve Perlman, President & CEO, Rearden LLC, OnLive, Inc., and MOVA, LLC, to Dianne Feinstein, United States Senator, at 4 (Mar. 1, 2011), available at [http://www.rearden.com/public/110301-Steve\\_Perlman\\_S.23\\_Letter\\_to\\_Senator\\_Feinstein.pdf](http://www.rearden.com/public/110301-Steve_Perlman_S.23_Letter_to_Senator_Feinstein.pdf) (noting that "[w]hen patents are delayed past their product's marketable window, the patents are largely useless to small entities, despite the enormous cost associated with filing them. Many of these patents are abandoned.").

114. 157 CONG. REC. H4427 (2011).

115. JOB CREATION, *supra* note 8.

116. *Id.*

117. 157 CONG. REC. H4427 (2011).

118. Dunne, *supra* note 39, at 483.

119. See Zach Carter, *The Spoilsmen: How Congress Corrupted Patent Reform*, HUFFINGTON POST BLOG (Aug. 4, 2011), [http://www.huffingtonpost.com/2011/08/04/patent-reform-congress\\_n\\_906278.html?view=print](http://www.huffingtonpost.com/2011/08/04/patent-reform-congress_n_906278.html?view=print).

120. *Id.*

121. *Id.* These inventions are considered "bad" patents because they are examples

have a substantial negative impact on innovation because the patent holders are able to charge consumers monopoly prices.<sup>122</sup>

Even worse, low quality patents lead to greater uncertainty in the patent system, which will in turn lead to increased disputes over patents at the USPTO and eventually, increased appeals to the courts.<sup>123</sup> Essentially, low quality patents will lead to increased delay and costs to patentees.<sup>124</sup> Low quality patents will impose the biggest costs on small businesses.<sup>125</sup> As mentioned above, any delay in patent granting can be extremely damaging to a small business' prospects for commercialization of its invention.

Furthermore, once these bad patents are granted, it is difficult and expensive to overturn them in the courts, which give great deference to the decisions of the USPTO.<sup>126</sup> More dangerously, until a court finds such patents invalid, the monopoly prices charged by the low quality patent holder will “thwart competition and innovation that could benefit society as a

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of things that should never have been granted a patent. *See also* Robert D. Gunderman & John M. Hammond, *Reexamination of the Peanut Butter and Jelly Sandwich*, IP FRONTLINE (Mar. 28, 2007), <http://www.ipfrontline.com/depts/article.aspx?id=14617&deptid=3>. For example, the patent owner of the crustless peanut butter and jelly sandwich will be able to exclude others from making, using, selling, or offering to sell a crustless peanut butter and jelly sandwich for twenty years – an illogical and unfair result.

122. 157 CONG. REC. H4427 (2011). *See also* Mazzone & Moore, *supra* note 108, at 53 (stating that the social and economic costs of these faulty patents are enormous, “especially . . . in key industries like software and biotechnology”).

123. *See* R. Polk Wagner, *Understanding Patent-Quality Mechanisms*, 157 U. PA. L. REV. 2135, 2140, 2143 (2009) (referring to this uncertainty as “uncertainty about the validity of granted patents, uncertainty about the scope of granted patents, uncertainty about whether a particular invention is patentable, and uncertainty about whether a valid patent will be fully enforced”). *Id.* at 2140.

124. This increased delay and cost arises out of the high costs of litigation and because disputes at the USPTO will further tie up patent examiners and cause more delay in the overall processing and granting of patents. *See id.* at 2140, 2143 (noting that “[u]ncertainty obviously makes business decisions based on patents (whether by patentees, prospective licensees, investors, etc.) much more difficult and costly”). *Id.* at 2140.

125. *See* Letter from James Love, Director, Consumer Project on Technology, to Talis Dzenitis (Dec. 18, 2002), *available at* <http://www.uspto.gov/web/offices/com/speeches/cpttech2uspto.html> (stating that “[t]he issuance of low quality patents imposes huge costs on small businesses who develop software or who engage in business methods that are deemed infringement by foreign countries”).

126. Carter, *supra* note 119.

whole.”<sup>127</sup> To specifically address these issues, Congress set out to reform the current patent system once again—the result being House Report 1249 (H.R. 1249, or House Report)—the Leahy-Smith America Invents Act (the AIA).<sup>128</sup>

### C. THE LEAHY-SMITH AMERICA INVENTS ACT (H.R. 1249)

The AIA is called a “bipartisan, bicameral bill” intended to reform the patent system and encourage innovation, job creation, and economic growth.<sup>129</sup> Despite these lofty goals, the AIA poses several negative effects on small businesses. Recognizing these negative effects, small businesses opposed the AIA, from its conception to its final passage.<sup>130</sup>

In order to analyze the effects of the AIA on small businesses, it is important to compare and contrast the provisions in the AIA that will affect small businesses with similar provisions in the pre-AIA patent system. These provisions include: first-to-invent versus first-inventor-to-file, modified best mode requirement, prior user rights versus prior commercial use defense, and the new post-grant review proceeding.

#### 1. Pre-AIA First-to-Invent Versus Post-AIA First-Inventor-to-File

Prior to the AIA, the United States patent system stood alone in the world in determining priority among competing inventors by a first-to-invent system.<sup>131</sup> Under this system, when multiple patent applications were filed claiming the same invention, priority for the patent would be granted to the first inventor.<sup>132</sup> Terms such as “conception,”<sup>133</sup> “reduction to

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127. Mazzone & Moore, *supra* note 108, at 53.

128. *America Invents Act: Effective Dates*, *supra* note 26.

129. *Id.* Originally introduced as bill S. 23 by Senate Judiciary Chair Patrick Leahy (D-VT) and House Judiciary Chair Lamar Smith (R-TX), the bill went through numerous amendments before its final passage as H.R. 1249. Joe Matal, *A Guide to the Legislative History of the America Invents Act: Part I of II*, 27 FED. CIR. B.J. 435 (2011). The House of Representatives passed H.R. 1249 by a vote of 304-117. *Id.* at 445. The Senate passed the bill by a vote of 89-9. *Id.* at 446.

130. Manus Cooney, *The America Invents Act – How it All Went Down*, IP WATCHDOG (Sept. 20, 2011), <http://www.ipwatchdog.com/2011/09/20/the-america-invents-act-how-it-all-went-down/id=19294/>. Section III of this Comment will illustrate specifically why small businesses opposed the AIA.

131. DONALD S. CHISUM, CHISUM ON PATENTS, Vol. 1, § 4 (2012).

132. Schacht & Thomas, *supra* note 104, at 1. The same principle applies even if the first inventor was not the first person to file the patent application. *Id.*

practice,”<sup>134</sup> and “diligence”<sup>135</sup> are important to determine priority between two competing applications.<sup>136</sup> The general rule is that the first inventor to “[reduce] an embodiment of the invention to practice” gets priority over a subsequent inventor, with two exceptions.<sup>137</sup> First, the inventor who was first to conceive of the invention but last to reduce it to practice will win if he “exercised reasonable diligence in reducing to practice from a time just prior to when the first person to reduce to practice conceived the subject matter.”<sup>138</sup> Also, the second inventor to reduce his invention to practice will prevail if the first inventor “abandoned, suppressed, or concealed” the invention.<sup>139</sup> However, under this second exception, if the first inventor resumes activity on the invention prior to entry of a second inventor and “diligently proceeds to file a patent application,” the first inventor may then rely on the resumption date as the new date of invention.<sup>140</sup>

The biggest and most heavily debated change in the AIA concerns the shift from the current first-to-invent priority system to a first-inventor-to-file system.<sup>141</sup> The new system is a modified version of the “first-to-file” system currently used by all other industrialized nations in the world—a key difference being that the new American system includes a grace period, similar to the prior first-to-invent system.<sup>142</sup> In a first-inventor-to-file system,

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133. See DONALD S. CHISUM, CHISUM ON PATENTS, Vol. 3A-10, § 10.04 (2012) (defining conception as “the mental formulation and disclosure by the inventor of a complete idea for a product or process”).

134. See *id.* at § 10.05 (defining a “constructive” reduction to practice as “[t]he filing of an application for a patent disclosing the invention”); *id.* at § 10.06 (defining an “actual” reduction to practice as occurring when “the inventor (1) constructs a product or performs a process that is within the scope of the patent claims, and (2) demonstrates the capacity of the inventive idea to achieve its intended purpose”). See *id.* at § 10.05.

135. See *id.* at § 10.07.

136. See *id.* at § 10.04.

137. CHISUM, *supra* note 133, at § 10.01.

138. *Id.*

139. 35 U.S.C. § 102(g)(1) (2002).

140. CHISUM, *supra* note 133, at § 10.08.

141. Schacht & Thomas, *supra* note 104, at 4.

142. H.R. REP. No. 112-98, at 40-42 (2011). While officially called a “first-inventor-to-file” system, it is, for all intents and purposes, a “first-to-file” system, and several commentators have intermingled the usage of both terms – in most cases, referring to the American system as simply “first-to-file.” WEALTH OF IDEAS, *supra* note 33; Simon, *supra* note 84; Jason Rantanen, Lee Petherbridge, & Jay P. Kesan, Debate, America Invents, More or Less?, 160 U. PA. L. REV. PENNUMBRA 229, 246 (2012) [hereinafter Rantanen & Petherbridge, Debate].

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**Harmful Effects of the AIA**

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when multiple applications claiming the same invention are filed, the invention with the earlier patent application filing date receives priority.<sup>143</sup>

One of the justifications stated in a House Committee Report for the first-inventor-to-file system was the relative ease of determining the right to a claimed invention in instances where multiple people claimed the same invention.<sup>144</sup> However, noting that other first-to-file systems do not have a grace period,<sup>145</sup> which disadvantages small businesses,<sup>146</sup> Congress settled on a first-inventor-to-file system with a *modified* grace period.<sup>147</sup> Two specific amendments from the first-to-invent system involve changes to both (a) “interference proceedings” and (b) the grace period available in order for inventors to file patent applications.

**a. Old Interference Proceedings versus New Derivation Proceedings**

A USPTO examiner decides whether to grant a patent. Under pre-AIA law, if the examiner identified two applications that claimed the same invention, the examiner would initiate interference proceedings to determine who invented the product first.<sup>148</sup> In an interference proceeding, one or both of the parties would attempt to prove priority over the invention by offering proof of conception, reduction to practice, and diligence.<sup>149</sup> Due to

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143. H.R. REP. No. 112-98, at 40 (2011).

144. *Id.*

145. *See infra* Section IV.A.

146. H.R. REP. No. 112-98, at 40 (2011). Specifically, the Report noted that [t]he Committee heard from universities and small inventors, in particular, about the importance of maintaining that grace period in our system. They argued that the grace period affords the necessary time to prepare and file applications, and in some instances, to obtain the necessary funding that enables the inventor to prepare adequately the application.

*Id.*

147. *Id.* at 41-42. The Report noted that the new system drew on “the best aspects of the two existing systems” and provided

patent applicants in the United States the efficiency benefits of the first-to-file systems used in the rest of the world by moving the U.S. system much closer to a first-to-file system and making the filing date that which is most relevant in determining whether an application is patentable. The new system continues, however, to provide inventors the benefit of the 1-year grace period.

*Id.*

148. *Information Concerning Patents, supra* note 34, at 4.

149. CHISUM, *supra* note 133, at § 10.09(1)(a).

a unique set of legal rules,<sup>150</sup> interference proceedings are complex.<sup>151</sup> However, it is important to note that interference proceedings are rare,<sup>152</sup> and patent attorneys seldom, if ever, become involved in the representation of a client in an interference dispute when handling patent prosecution.<sup>153</sup>

Under the AIA, however, interference proceedings have been removed because of the new focus on first-inventor-to-file, rather than first-to-invent.<sup>154</sup> Calling such interference proceedings “costly” and “complex,” Congress created a new administrative “derivation” proceeding to ensure that the first filer of a patent application is the true inventor.<sup>155</sup> Thus, under the AIA, priority attaches to the first filer, as long as the first filer did not derive the invention from another.<sup>156</sup>

#### b. Modified Grace Period

Under the pre-AIA system, inventors had a one-year grace period to decide whether to file a patent application for their invention after public disclosure of the invention.<sup>157</sup> For the one-year period to start, a “triggering event” of public disclosure must occur, either by the inventor or someone else.<sup>158</sup> This triggering event occurs if the invention was “patented or described in a printed publication in [the U.S.] or a foreign country or [was] in public use or on sale in [the U.S.]”<sup>159</sup> If any such activities occurred even a day before the “critical date”—exactly one year before the filing date—the patent will not be issued due to patent-defeating “prior art.”<sup>160</sup> Prior art constitutes any form of

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150. *See supra* Section II.C.1.a.

151. CHISUM, *supra* note 133, at § 10.09(1)(b).

152. WEALTH OF IDEAS, *supra* note 33. In 2010, there were only 52 interferences declared out of 400,000 applications filed. William Ahmann & Tenaya Rodewald, *Patent Reform: The Impact on Start-ups*, 24 NO. 1 INTELL. PROP. & TECH. L.J. 3, 4 (2012).

153. WEALTH OF IDEAS, *supra* note 33.

154. H.R. REP. No. 112-98, at 42 (2011).

155. *Id.* The Report further noted that “[i]f a dispute arises as to which of two applicants is a true inventor (as opposed to who invented it first), it will be resolved through an administrative proceeding by the Patent Board.” *Id.*

156. Schacht & Thomas, *supra* note 104, at 4.

157. *Id.* at 5.

158. STEPHEN M. MCJOHN, INTELLECTUAL PROPERTY EXAMPLES & EXPLANATIONS 170 (2d ed. 2006).

159. 35 U.S.C. § 102(b) (2002).

160. Schacht & Thomas, *supra* note 104, at 5.

information disclosed to the public about an invention before a given date, and includes any patents, published articles, and public demonstrations related to the invention.<sup>161</sup> The application of a strict one-year grace period gave inventors a strong incentive to file patent applications promptly while preventing them from delaying the applications to gain a longer period of protection.<sup>162</sup>

The AIA maintains this one-year grace period for U.S. patent applicants because it gives U.S. patent applicants sufficient time to prepare and file their applications.<sup>163</sup> Under the AIA, an applicant's own publication or disclosure during the one-year grace period prior to filing will not serve as prior art against his own applications.<sup>164</sup> The only time disclosures to the public constitute patent-defeating prior art are if made by either "(1) the inventors . . . more than one year before the patent application's filing date; or (2) anyone else prior to the filing date, provided that such a disclosure occurred prior to the inventor's own disclosure."<sup>165</sup>

The difference in the AIA's grace period provision from the first-to-invent system involves the triggering event that starts the one-year period after a disclosure to the public.<sup>166</sup> Prior art is now expanded to include "all art that publicly exists" prior to the filing date, other than inventor disclosures within the one-year grace period.<sup>167</sup> Prior art will also no longer have geographical limitations, essentially meaning that art found anywhere in the world can be patent-defeating prior art.<sup>168</sup>

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161. Mary Bellis, *Definition, Prior Art*, ABOUT.COM, [http://inventors.about.com/od/definations/g/prior\\_art.htm](http://inventors.about.com/od/definations/g/prior_art.htm) (last visited Feb. 21, 2013).

162. MCJOHN, *supra* note 158, at 170.

163. H.R. REP. No. 112-98, at 42 (2011).

164. *Id.*

165. Schacht & Thomas, *supra* note 104, at 5.

166. MCJOHN, *supra* note 158, at 170.

167. H.R. REP. No. 112-98, at 42.

168. *Id.* at 42-43. Specifically, the Report noted that

[p]rior art will be measured from the filing date of the application and will typically include all art that publicly exists prior to the filing date, other than disclosures by the inventor within 1 year of filing. Prior art also will no longer have any geographic limitations. Thus, in section 102 the "in this country" limitation as applied to "public use" and "on sale" is removed, and the phrase "available to the public" is added to clarify the broad scope of relevant prior art, as well as to emphasize the fact that it must be publicly accessible.

*Id.*

## 2. Modified Best Mode Requirement

Under pre-AIA law, a patent applicant must provide a written description of the invention and the process of making and using it in clear and concise terms as to enable any person skilled in the art to make and use the invention.<sup>169</sup> Furthermore, the applicant must disclose the best mode contemplated by him of carrying out his invention.<sup>170</sup> To accurately disclose the best mode of an invention, an inventor must build a working prototype or further develop the invention, which will in turn allow the inventor to find the best way to practice the invention through experimentation.<sup>171</sup>

The Federal Circuit once noted that the best mode requirement is to make sure the patent applicant plays “fair and square with the patent system. It is a requirement that the *quid pro quo* of the patent grant be satisfied.”<sup>172</sup> Basically, the patent applicant should not receive an exclusionary right against the public if he did not provide the public a full disclosure of the best mode of carrying out his invention.<sup>173</sup> The question of whether the applicant has a best mode is subjective.<sup>174</sup>

More importantly, under pre-AIA law, along with being a requirement of disclosing the invention, best mode was also available as a defense of patent invalidity by defendants in a patent infringement suit.<sup>175</sup> In response to being sued, the defendants could claim that the plaintiff failed to disclose the best mode of the invention.<sup>176</sup> Furthermore, a defendant could also allege an intentional nondisclosure of the best mode, with specific intent to deceive the USPTO, as a basis for an unenforceability

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169. 35 U.S.C. § 112 (2012).

170. *Id.*

171. WEALTH OF IDEAS, *supra* note 33.

172. *Amgen, Inc. v. Chugai Pharmaceutical Co., Ltd.*, 927 F.2d 1200, 1209-10 (Fed. Cir. 1991), *cert. denied*, 502 U.S. 856 (1991).

173. *Id.*

174. MCJOHN, *supra* note 158, at 198. The two-part test for determining whether an inventor disclosed her best mode involves asking whether (1) the inventor knew of a method of practicing the invention that she considered superior to other methods and, if so, (2) whether the disclosure in the application was sufficient to enable persons of skill in the art to practice that best mode. Schacht & Thomas, *supra* note 104, at 17.

175. H.R. REP. No. 112-98, at 52 (2011).

176. *Id.*

defense.<sup>177</sup>

The AIA retained the requirement that inventors disclose the best mode of their invention.<sup>178</sup> However, the AIA eliminated the ability to use best mode as a defense to patent infringement for a patentee's failure to comply with disclosing the best mode.<sup>179</sup> The House Report attributed this revision to the best mode requirement being counter-productive due to its inherently subjective nature and irrelevancy by the time the patent actually issued.<sup>180</sup> This is because the best mode at the time of the invention may not be the same best mode for practicing and using the invention years later.<sup>181</sup>

### 3. Pre-AIA Prior User Rights Versus Post-AIA Prior Commercial Use Defense

Pre-AIA law stipulates that “prior user rights” may offer a defense to infringement when the patent is a “business method patent.”<sup>182</sup> The defense can only be asserted by the person who performed the acts necessary to establish the defense but never filed a patent application for it.<sup>183</sup> Thus, if someone else patents the business method patent later, the prior user may not be liable to the current patent holder for patent infringement.<sup>184</sup>

The AIA expands current law and applies the defense to all patents, not just business method patents.<sup>185</sup> Additionally, the defense can be asserted not just by the person who performed the prior commercial use, but also by “any other entity that controls, is controlled by, or is under common control with such person.”<sup>186</sup> The House Report reasoned that this expansion of prior user rights is particularly important to “high-tech businesses that prefer not to patent every process or method that is part of their

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177. H.R. REP. No. 112-98, at 52 (2011).

178. *Id.*

179. *Id.*

180. *Id.*

181. *Id.*

182. *Id.* at 44. Business method patents combine software and business methodology and usually describe novel ways of doing business. *Business Method Patents*, NOLO, <http://www.nolo.com/legal-encyclopedia/business-method-patents-30098.html> (last visited Oct. 17, 2012).

183. *See* 35 U.S.C. § 273(b)(6) (2011).

184. H.R. REP. No. 112-98, at 44 (2011).

185. Schacht & Thomas, *supra* note 104, at 7.

186. Pub. L. No. 112-29, § 5(e)(1)(A), 125 Stat. 284 (2011).

commercial operations.”<sup>187</sup> The House Report also pointed to this expansion as balancing the interests of patent holders against the concerns of businesses that want to avoid infringement suits on processes they previously developed and used.<sup>188</sup>

#### 4. New Post-Grant Review Proceeding

The AIA introduced a new post-grant review proceeding not present in current law to challenge a patent’s validity through an administrative appeal in front of the USPTO.<sup>189</sup> Billed as a cost-effective and cheaper alternative to litigation,<sup>190</sup> this proceeding allows challenges to validity based on any grounds.<sup>191</sup> A post-grant review must be filed within nine months of the date of patent issuance.<sup>192</sup> To initiate this proceeding, the petitioner must show that it is “more likely than not” that at least one of the patent claims should not have been patented.<sup>193</sup> Once commenced, the proceeding must be completed within one year.<sup>194</sup> However, an extension of six months can be received for good cause shown.<sup>195</sup> Importantly, the petitioner is barred from raising issues in the future that were “raised or reasonably could have been raised” during the proceeding.<sup>196</sup>

The House Report stated that the intent of this new proceeding is to enable early challenges to patents, but still protect inventors and patent owners against challenges to the patent at any unspecified time in the future.<sup>197</sup> Therefore, the overall purpose of this new provision is to prevent frivolous litigation by petitioners mounting multiple challenges to a

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187. H.R. REP. No. 112-98(I), at 44 (2011).

188. *Id.*

189. Pub. L. No. 112-29, § 6(d), 125 Stat. 284 (2011). This is in addition to amendments to two other reexamination procedures already available: *ex parte* and *inter partes* reexamination. H.R. REP. No. 112-98, at 45 (2011); *see also* ADELMAN, *supra* note 70, at 621.

190. JOB CREATION, *supra* note 8.

191. Schacht & Thomas, *supra* note 104, at 11.

192. *Id.*

193. *Id.*

194. *Id.*

195. *Id.*

196. *Id.*

197. H.R. REP. No. 112-98(I), at 48 (2011). The House Report noted that this new proceeding would “make the patent system more efficient . . . improve the quality of patents and the patent system . . . and restore confidence in the presumption of validity that comes with issued patents in court.” *Id.*

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patent.<sup>198</sup> The Committee then added a caveat about how these proceedings should not be used as “tools for harassment” or as a “means to prevent market entry through repeated litigation and administrative attacks on the validity of a patent.”<sup>199</sup> Finally, the Committee essentially shifted future responsibility to the USPTO, stating that if such abuses arise, the USPTO must address them.<sup>200</sup>

**III. THE “GOOD, THE BAD, AND THE UGLY”: EFFECTS OF THE AIA ON SMALL BUSINESSES**

*There will be heightened uncertainty for the rest of the decade. The bill makes fundamental changes, and many sections are poorly written and ambiguous.* —Retired Chief Judge Paul Michel, Federal Circuit.<sup>201</sup>

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*If the America Invents Act were a term paper submitted by a student in a patent law seminar, an instructor would, undoubtedly, send it back with a note: SOME GOOD IDEAS, SOME MUDDLED AND UNSUPPORTED IDEAS, POOR GRAMMAR: PLEASE REVISE AND CLARIFY.* —Donald Chisum, patent expert.<sup>202</sup>

The AIA was enacted with good intentions, including a goal of leveling the playing field between small and big businesses.<sup>203</sup> Unfortunately, the AIA falls short of its goals. The following subsections analyze the AIA and show that the AIA disproportionately favors big businesses over small businesses. Subsection A will analyze the intended effects of the AIA on small

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198. H.R. REP. No. 112-98(I), at 48 (2011).

199. *Id.*

200. *Id.*

201. Jan Wolfe, *What Effects Will the America Invents Act Have on U.S. Patent Law?*, LAW.COM (Sept. 13, 2011), <http://www.law.com/jsp/cc/PubArticleCC.jsp?id=1202514170593>.

202. Dennis Crouch & Jason Ratanen, *Chisum on the New Rules of Patent Priority*, PATENTLY-O (Dec. 9, 2011, 10:31 AM), <http://www.patentlyo.com/patent/2011/12/chisum-on-the-new-rule-of-patent-priority.html>; see also Donald S. Chisum, *Priority Among Competing Patent Applications Under the America Invents Act*, SSRN (Dec. 5, 2011), [http://papers.ssrn.com/sol3/papers.cfm?abstract\\_id=1969592](http://papers.ssrn.com/sol3/papers.cfm?abstract_id=1969592). Donald Chisum is the sole author of CHISUM ON PATENTS, a multiple volume treatise, first published in October 1978. See also CHISUM.COM, <http://www.chisum.com/>.

203. Kappos, Harmonization, *supra* note 3.

businesses (the good). Subsection B will analyze the unintended effects of the AIA on small businesses (the bad). Finally, subsection C will analyze other, potentially far-reaching, unintended consequences of the AIA (the ugly).

### A. THE GOOD: INTENDED EFFECTS OF THE AIA ON SMALL BUSINESSES

Despite some troubling issues, several provisions of the AIA perform reasonably well in terms of both their purpose and expected positive effects on small businesses. These provisions explicitly focus on small businesses and a new sub-section of small businesses called “micro entities.”<sup>204</sup> Specifically, Congress lessened the financial burden on small businesses in filing patent applications by reducing their application fees. Additionally, Congress directed the USPTO to conduct various studies and programs targeted at small businesses.

#### 1. PATENT APPLICATION FILING FEE REDUCTION FOR SMALL BUSINESSES

Although overall patent related fees increased by 15%,<sup>205</sup> the AIA reduced patent application-related fees for small businesses and micro entities.<sup>206</sup> In fact, small business fees were reduced by

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204. Pub. L. No. 112-29, § 10(g), 125 Stat. 284 (2011). The applicable section in the AIA defines a “micro entity” as

an applicant who makes a certification that the applicant—

- (1) qualifies as a small entity, as defined in regulations issued by the Director;
- (2) has not been named as an inventor on more than 4 previously filed patent applications, other than applications filed in another country, provisional applications under section 111(b), or international applications filed under the treaty defined in section 351(a) for which the basic national fee under section 41(a) was not paid;
- (3) did not, in the calendar year preceding the calendar year in which the applicable fee is being paid, have a gross income, as defined in section 61(a) of the Internal Revenue Code of 1986, exceeding 3 times the median household income for that preceding calendar year, as most recently reported by the Bureau of the Census; and
- (4) has not assigned, granted, or conveyed, and is not under an obligation by contract or law to assign, grant, or convey, a license or other ownership interest in the application concerned to an entity that, in the calendar year preceding the calendar year in which the applicable fee is being paid, had a gross income, as defined in section 61(a) of the Internal Revenue Code of 1986, exceeding 3 times the median household income for that preceding calendar year, as most recently reported by the Bureau of the Census.

205. *15% Surcharge*, USPTO, [http://www.uspto.gov/aia\\_implementetation/fees.jsp](http://www.uspto.gov/aia_implementetation/fees.jsp) (last visited Oct. 30, 2012).

206. Pub. L. No. 112-29, § 10(b), 125 Stat. 284 (2011). The patent application-related fees include those for “filing, searching, examining, issuing, appealing, and maintaining” patent applications. *Id.*

50% and micro entity fees were reduced by 75%.<sup>207</sup> Additionally, small businesses can have their total fees reduced by 75% by filing electronically.<sup>208</sup> While these fee decreases appear to help small businesses, the fact remains that the overall costs related to filing a patent application are still too high.<sup>209</sup> The greatest cost to file a patent is not the filing-related fees, but rather patent attorney fees.<sup>210</sup> The anticipated cost of an invention depends on the type and degree of complexity of the invention; the simpler the invention, the cheaper it will be.<sup>211</sup> However, no invention is “extremely simple.”<sup>212</sup> The following table shows attorney fee estimates for drafting a patent application for various inventions, ranging from “extremely simple” to “highly complex.”<sup>213</sup>

Type of Invention	Examples	Attorneys Fees
Extremely simple	Coat hanger; paper clip; ice cube tray	\$ 5,000-7,000
Minimally simple	Lawn mower; camera; cell phone	\$9,000-10,000
Highly complex	MRI scanner; telecommunication networking systems; satellite technologies	\$15,000+

207. Pub. L. No. 112-29, § 10(b), 125 Stat. 284 (2011). Thus, the new cost to file a utility patent application is \$1250 for a large entity, but only \$625 for a small entity and \$312.50 for micro-entities. Michael Coblenz, *The America Invents Act*, KY. BAR ASS'N HOT TOPICS BLOG (Nov. 2, 2011), [http://www.kybar.org/documents/Inside\\_KBA/PublicRelations/HotTopics/2011\\_november\\_2.pdf](http://www.kybar.org/documents/Inside_KBA/PublicRelations/HotTopics/2011_november_2.pdf).

208. Pub. L. No. 112-29, § 11(h)(3), 125 Stat. 284 (2011). Thus, online filing for a small business brings its fee down to \$530. Coblenz, *supra* note 207.

209. See generally *U.S. Patent and Trademark Office Fee Schedule*, U.S. PATENT AND TRADEMARK OFFICE <http://www.uspto.gov/web/offices/ac/qs/ope/fee092611.htm> (last visited Nov. 11, 2012); see also Gene Quinn, *New US Patent Fees*, IP WATCHDOG, (Sept. 3, 2008), <http://www.ipwatchdog.com/2008/09/03/new-us-patent-office-fees/>; Gene Quinn, *The Cost of Obtaining a Patent in the US*, IP WATCHDOG (Jan. 28, 2011), <http://www.ipwatchdog.com/2011/01/28/the-cost-of-obtaining-patent/id=14668/> [hereinafter Quinn, *Cost*].

210. Coblenz, *supra* note 207.

211. Quinn, *Cost*, *supra* note 209.

212. *Id.*

213. *Id.*

These estimates demonstrate the high patent attorney's fees often incurred for the simplest of inventions.<sup>214</sup> Thus, while a positive development, unless patent attorney's fees decrease, the reduction in patent filing fees will be irrelevant in the future.

## 2. INCREASED AWARENESS ON SMALL BUSINESSES THROUGH VARIOUS NEW STUDIES AND PROGRAMS

The AIA contains provisions on conducting studies specifically directed at small businesses: First, the AIA requires the USPTO director to conduct a study on the manner in which the AIA is being implemented by the USPTO, and on the patent policies and practices of the federal government with respect to access by small businesses to capital for investment.<sup>215</sup> The study must be completed within four years and submitted to the House and Senate Committees on the Judiciary.<sup>216</sup> Second, the AIA requires the USPTO director to conduct a study determining how the USPTO can best help small businesses with international patent protection.<sup>217</sup> The same provision also requires a determination of whether a loan or grant program should be established to defray application filing, maintenance and enforcement costs for small businesses.<sup>218</sup> Third, the AIA requires the Small Business Administration (SBA)<sup>219</sup> and the USPTO to study the effects on small businesses of switching to a first-to-file system.<sup>220</sup>

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214. Quinn, *Cost*, *supra* note 209. These numbers might even go higher depending on the different "alternatives, options, variations and different embodiments" claimed. *Id.*

215. Pub. L. No. 112-29, § 26(a), 125 Stat. 284 (2011). The Act states that the study must focus on patent policies and practices of the government with respect to "patent rights, innovation in the United States, competitiveness of United States markets, access by small businesses to capital for investment, and such other issues, as the Director considers appropriate." *Id.*

216. Pub. L. No. 112-29, at § 26(b).

217. *Id.* at § 31(a).

218. *Id.*

219. The Small Business Administration (SBA) is an independent agency of the federal government created to "aid, counsel, assist and protect the interests of small business concerns, to preserve free competitive enterprise and to maintain and strengthen the overall economy of our nation." *Mission Statement*, U.S. SMALL BUSINESS ADMINISTRATION, <http://www.sba.gov/content/mission-statement-0> (last visited Nov. 11, 2012).

220. *AIA Studies and Reports*, U.S. PATENT AND TRADEMARK OFFICE, [http://www.uspto.gov/aia\\_implementation/aia\\_studies\\_reports.jsp](http://www.uspto.gov/aia_implementation/aia_studies_reports.jsp) [hereinafter *AIA Studies and Reports*].

These studies are steps in the right direction because of their focus on helping small businesses. However, provisions in the AIA that harm small businesses<sup>221</sup> go into effect regardless of what the studies show.<sup>222</sup> Thus, the more important consideration concerns Congress's potential response to the results of these studies.<sup>223</sup>

The AIA also contains provisions on conducting programs specifically directed at small businesses. First, the AIA requires the USPTO director to establish a "Patent Ombudsman Program" to provide support and services to small businesses during patent application filings.<sup>224</sup> Representative Lamar Smith (R-TX) referred to this program in a staged Senate Colloquy as being one where "small businesses will always have a champion at the [USPTO] looking out for their interests and helping them as they secure patents for their inventions."<sup>225</sup> This program will provide "support and services for independent inventors who may not have the resources to obtain legal counsel for guidance on obtaining a patent."<sup>226</sup> Second, the AIA requires the USPTO director to work with and support intellectual property law associations across the nation in the establishment of pro-bono programs designed to assist financially under-resourced small businesses.<sup>227</sup> This program arose out of the House Committee's acknowledgement of the importance of small businesses to the patent system and the national culture of innovation.<sup>228</sup> Both of these programs are more helpful than the above studies because they show quantifiable and visible acts of Congress specifically helping small businesses. Furthermore, in a world where patent

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221. *See infra* Section III.B-C.

222. Todd McCracken, *Patent Reform Bill Hurts Small Business*, THOMAS REUTERS NEWS & INSIGHT (Jan. 13, 2012), [http://newsandinsight.thomsonreuters.com/Legal/Insight/2012/01\\_-\\_January/Patent\\_reform\\_bill\\_hurts\\_small\\_business](http://newsandinsight.thomsonreuters.com/Legal/Insight/2012/01_-_January/Patent_reform_bill_hurts_small_business).

223. Regardless, there is the chance that even if the results show negative effects on small businesses, Congress might still not repeal the entire bill since many of the provisions will have already gone into effect by then.

224. Pub. L. No. 112-29, § 28, 125 Stat. 284 (2011).

225. 157 CONG. REC. H4424 (2011).

226. *Id.*

227. Pub. L. No. 112-29, at § 32. This program is already running in Minnesota, with a task force formed to expand the program to other cities. Janet Gongola, *Status Report: USPTO Implementation of the America Invents Act*, at 19, U.S. PATENT AND TRADEMARK OFFICE (Dec. 9, 2011), [http://www.uspto.gov/about/advisory/ppac/2011dec1-aia\\_update.pdf](http://www.uspto.gov/about/advisory/ppac/2011dec1-aia_update.pdf).

228. H.R. REP. NO. 112-98(I), at 56 (2011).

attorney fees are exorbitantly high, the Pro Bono program brings the focus back to helping clients. The program facilitates development and education in Intellectual Property law for inventors and patent applicants, with no external financial motivation.

It could be argued that these provisions offer no more than “lip service” to small business interests.<sup>229</sup> Regardless, the above studies and programs that explicitly focus on small businesses signify positive steps that Congress has taken to level the playing field between big and small businesses. However, the next two sections will show how several unintended, negative effects of the AIA on small businesses overshadow these positive effects.

## B. THE BAD: UNINTENDED EFFECTS OF THE AIA ON SMALL BUSINESSES

The necessity for the strong functioning of the small business economy in America cannot be overstated. However, minor provisions of the AIA targeted at helping small businesses and micro entities are overcome by the indirect harm done to them by other general provisions targeted at all patentees. Further, despite the importance of small businesses to innovation, some proponents of the AIA have admitted to not considering how the AIA affects small businesses.<sup>230</sup> The following sub-sections will analyze the effects of specific above-mentioned AIA provisions on small versus big businesses: first-to-file, post-grant review, and prior commercial use defense.

### 1. NEW FIRST-TO-FILE SYSTEM

Moving to a first-to-file system will likely favor, and further entrench, well-financed multinational market incumbents over small businesses with limited assets.<sup>231</sup> Under pre-AIA law, as long as the small business that conceives the invention first acts diligently in reducing the invention to practice, it does not have to rush to file a patent application.<sup>232</sup> Waiting to ensure the invention is fully developed and functional would boost the small

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229. Rantanen & Petherbridge, Debate, *supra* note 142, at 229, 241.

230. David Boundy, *Why the America Invents Act is Bad for Startups and Bad for America*, REFORM AIA (June 15, 2011), <http://www.reformaia.org/news/why-america-invents-act-is-bad-startups-and-bad-america-david-boundy>.

231. McCracken, *supra* note 222.

232. Ned L. Conley, *First-to-Invent: A Superior System for the United States*, 22 ST. MARY'S L.J. 779, 783 (1991) [hereafter Conley, *First-to-Invent*].

business' chances of obtaining sufficient venture capital financing for its invention.<sup>233</sup> First-to-file removes the ability of small businesses to wait until their invention is fully developed.<sup>234</sup> It moves the system from a "first to conceive" to a "first to reduce to practice" system.<sup>235</sup> Thus, the first-to-file system rewards companies with the resources to file as quickly as possible, creating a "race to the Patent Office."<sup>236</sup> This is inherently unfair because small companies, especially startups, will always have fewer resources than big companies with a wealth of assets, leading to the unfair result of big companies always winning this "race" to the USPTO.<sup>237</sup>

During the House floor debates for the AIA, Representative Lamar Smith (R-TX) and other pro-AIA senators referred to how the new first-inventor-to-file system parallels the "first-to-register" patent system that the Founders initially used.<sup>238</sup> Even if this is true, the change to a first-to-invent system is what made America a technological and industrial leader.<sup>239</sup> Representative Smith fails to recognize that, with the advance of the industrial and technological age, big companies with massive resources have more avenues than ever before to undermine small companies with limited resources. Therefore, it is counter-productive to pass legislation giving such big companies even more protection.

Moreover, reference to other first-to-file countries indicates that a first-to-file system might cause more harm than good. When Canada adopted the first-to-file system in 1989, the switch resulted in "adverse effects on domestic-oriented industries and skewed ownership structure of patented inventions" away from small businesses and towards big corporations.<sup>240</sup> Furthermore, reviewing patent applications from the United States and Japan

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233. Conley, *First-to-Invent*, *supra* note 232.

234. Jonathan S. Massey, *H.R. 1249 Would Violate the Constitution, Hurt Innovation, and Cost American Jobs*, AMPATLEG.WORDPRESS.COM, [http://ampatleg.files.wordpress.com/2011/06/2-\\_massey\\_constitutional\\_paperapril18\\_2011-1.pdf](http://ampatleg.files.wordpress.com/2011/06/2-_massey_constitutional_paperapril18_2011-1.pdf) (last visited Jan. 29, 2013).

235. McCracken, *supra* note 222.

236. Massey, *supra* note 234.

237. WEALTH OF IDEAS, *supra* note 33.

238. 157 CONG. REC. H4423 (2011).

239. Ammon Leshner et al., *The New Grace Period Under the America Invents Act*, 18 NO. 15 WL J. INTELL. PROP. 2 (Nov. 16, 2011).

240. Shih-Tse Lo & Dhanoos Sutthiphisal, *Does it Matter Who Has the Right to Patent: First-to-Invent or First-to-File? Lessons from Canada*, SSRN (Apr. 2009), [http://papers.ssrn.com/sol3/papers.cfm?abstract\\_id=1394833#%23](http://papers.ssrn.com/sol3/papers.cfm?abstract_id=1394833#%23).

showed that Japanese applications were inadequate compared to their American counterparts because of Japanese applicants rushing to obtain earlier priority dates.<sup>241</sup> Lastly, several European countries have openly acknowledged the “failure of [their] patent system.”<sup>242</sup> In particular, small businesses in the United Kingdom and Germany are attempting to change their failed system to mirror the successful American first-to-invent system.<sup>243</sup>

Along with the creation of the new first-inventor-to-file system, Congress also added (a) new derivation proceedings and also effectively created (b) a new grace period.

#### a. New Derivation Proceeding

During the House floor debates, Representative Bob Goodlatte (R-VA) referred to how the current system subjects small businesses and independent inventors to costly and complex interference proceedings.<sup>244</sup> Therefore, Congress removed these proceedings, replacing them with derivation proceedings to determine whether the patentee invented the invention.<sup>245</sup> However, in the jurisdictions where they exist, derivation proceedings are the most expensive of all such proceedings.<sup>246</sup> These proceedings will require the same amount, or even more, evidence than interference proceedings.<sup>247</sup> Besides proving the date of the invention, the inventor must also show

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241. Simon, *supra* note 84, at 137 n.65 (2006).

242. Gary Lauder, *New Patent Law Means Trouble for Tech Entrepreneurs*, FORBES, Sept. 20, 2011, <http://www.forbes.com/sites/ciocentral/2011/09/20/new-patent-law-means-trouble-for-tech-entrepreneurs/> [hereinafter Lauder, FORBES]. Specifically, the UK Small Medium-sized Entity Innovation Alliance sent a letter to their Prime Minister referring to the “failure of [their] patent system” and how they “have given up.” *Id.* Also, a European research organization published a study two years ago detailing why the European patent system does not work. Bruno van Pottelsberghe, *Lost Property: The European Patent System and Why It Doesn't Work*, BRUEGEL, June 29, 2009, <http://www.bruegel.org/publications/publication-detail/publication/312-lost-property-the-european-patent-system-and-why-it-doesnt-work>.

243. Gary Lauder, *Patently Absurd or: How to Go From the World's Best Patent System to Worse-Than-Most in a Single Step*, HUFFINGTON POST BLOG (Mar. 7, 2011), [http://www.huffingtonpost.com/gary-lauder/patently-absurd-or-how-to\\_b\\_832703.html](http://www.huffingtonpost.com/gary-lauder/patently-absurd-or-how-to_b_832703.html) [hereinafter Lauder, HUFFINGTON POST].

244. 157 CONG. REC. H4422 (2011).

245. H.R. REP. No. 112-98(I), at 42 (2011).

246. Boundy *supra* note 230.

247. *Id.*; Ahmann & Rodewald, *supra* note 152, at 5.

“that the deriver had sufficient access to derive the invention from the inventor.”<sup>248</sup> Essentially, this new derivation proceeding will, at the very least, be equally as complex and costly for small businesses as the currently existing interference proceedings. Thus, it is unclear whether Congress contemplated the effect of these new derivation costs or intentionally decided to overlook them.

#### b. New Grace Period

The pre-AIA one-year grace period traditionally helped small businesses by providing them with enough time to initiate discussions with investors for manufacturing and marketing.<sup>249</sup> It also gave inventors sufficient time to test and perfect their invention before expending money for a patent attorney and application.<sup>250</sup> The new grace period under the AIA forces inventors into a “Hobson’s choice”<sup>251</sup> whereby they must either file patent applications or publish the details of their invention, before speaking to investors.<sup>252</sup> Hastily filing a patent application can result in high expenses, while publishing full details of an invention is “commercial suicide,” which presents a lose-lose situation for small businesses seeking venture capital funding to proceed with their invention.<sup>253</sup>

Furthermore, regardless of the presence of this new grace period, the nature of this first-inventor-to-file system will set off a race to the USPTO.<sup>254</sup> Additionally, the presence of the first-inventor-to-file requirement will render moot any advantages of the grace period for small businesses because big businesses have the financial capability to perform their “financing, research and development, testing, manufacturing and marketing in-house.”<sup>255</sup> By doing so, big businesses will not have to face the conflicting choices that small businesses face and will be able to file their

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248. Ahmann & Rodewald, *supra* note 152, at 5 n.11.

249. McCracken, *supra* note 222.

250. *Id.*

251. See *Hobson’s Choice, Definition*, MERRIAM-WEBSTER DICTIONARY, <http://www.merriam-webster.com/dictionary/hobson's+choice> (last visited Jan. 22, 2013) (defining it as “an apparently free choice when there is no real alternative”).

252. McCracken, *supra* note 222.

253. *Id.*

254. WEALTH OF IDEAS, *supra* note 33.

255. McCracken, *supra* note 222.

applications without any public disclosure to investors.<sup>256</sup>

One of the stated purposes of the AIA is that it furthers harmonization with the rest of the world.<sup>257</sup> However, other countries that use a first-to-file system do not have a grace period.<sup>258</sup> Thus, if an inventor publicly discloses his invention to utilize his one-year grace period, he effectively foregoes international patent protection.<sup>259</sup> Most start-ups that depend on venture capital funding to proceed with their invention must use the grace period to gain time to talk to investors before filing for a patent.<sup>260</sup> Thus, utilizing the grace period will lead to such inventors having to choose between American or international patent protection.<sup>261</sup> This unintended effect undermines Congress's harmonization rationale and appears to be one that Congress did not contemplate.

Furthermore, harmonization serves as an "illusory" concept because "partial harmonization" creates no benefit.<sup>262</sup> Europe faces this problem because, despite harmonization of their patent laws, some small differences still persist between different European nations.<sup>263</sup> Therefore, even with multiple identical patents, a "U.K. attorney will not opine on a French or German patent."<sup>264</sup> If European attorneys will not look at each other's patents, it is wishful thinking for Congress to assume that this so-called harmonization with Europe will have any effect.

Additionally, since America's first-to-invent patent system has universally been acknowledged as the strongest in the world, Congress's decision to harmonize with other countries' inferior

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256. McCracken, *supra* note 222.

257. Kappos, Harmonization, *supra* note 3.

258. Mark J. Patterson & M. Andrew Pitchford, *First to File: 'America Invents Act' Changes Paradigm for Patents*, 47-NOV TENN. B.J. 14, 15 (2011).

259. *Id.*

260. See McCracken, *supra* note 222; see also Lauder, *Venture Capital*, *supra* note 64, at 17 (stating that "small companies have to talk to outsiders: investors, potential employees, and other outside experts to solve business problems").

261. See Rantanen & Petherbridge, Debate, *supra* note 142, at 229, 246 (stating that "a U.S. inventor who discloses under the American first-to-file system, thinking that it creates a safe harbor with respect to validity, may have just eliminated his or her ability to obtain a patent abroad").

262. Boundy, *supra* note 230. Partial harmonization is referring to Congress's inclusion of a grace period that does not exist in any other first-to-file system in the world. Patterson & Pitchford, *supra* note 258.

263. Boundy, *supra* note 230.

264. *Id.*

patent systems is questionable.<sup>265</sup> A clue to their reasoning can be found in the House floor debates, where Representative Dana Rohrabacher (R-CA) explained how large multinational corporations have tried for some time to harmonize American patent law with the rest of the world.<sup>266</sup> Rohrabacher also referred to the Hoover Institution's<sup>267</sup> statements that the AIA "protect[s] large, entrenched companies at expense of market challenging competitors, [i.e.,] overseas multinational corporations."<sup>268</sup>

Lastly, the AIA will help foreign businesses attempting to compete with American businesses in the American market more so than vice-versa.<sup>269</sup> In fact, the regular American small business owner does not generally seek foreign patent protection.<sup>270</sup> Thus, there is reason to suspect that this "harmonization" is a reaction to the various pressures brought on by multinational corporations with substantial lobbying power. Congress's harmonization rationale for the change to a first-inventor-to-file provision has been referred to as "succumbing to peer pressure."<sup>271</sup> On the other hand, small businesses rarely have the financial ability to effectively lobby their views on Capitol Hill<sup>272</sup>—the Senate spent six years seemingly avoiding testimony from startups, small businesses, individual inventors, and venture capitalists.<sup>273</sup>

## 2. NEW POST-GRANT REVIEW PROCEEDING

The new post-grant review proceeding is bad for small businesses because it gives big businesses an additional avenue

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265. WEALTH OF IDEAS, *supra* note 33.

266. 157 CONG. REC. H4429 (2011).

267. Representative Rohrabacher (R-CA) referred to the Hoover Institution as "one of the most highly respected think-tanks in the United States." 157 CONG. REC. H4429 (2011). *See also* HOOVER INST. STANFORD UNIV., <http://www.hoover.org/> (last visited Jan. 22, 2013).

268. 157 CONG. REC. H4429 (2011).

269. WEALTH OF IDEAS, *supra* note 33.

270. *See* Rantanen & Petherbridge, Debate, *supra* note 142, at 245-46 (stating that "it is the logistical, regulatory, and other costs associated with doing business in a foreign country, relative to smaller patent-driven returns, that are likely the main reasons why small businesses and inventors do not seek large numbers of foreign patents").

271. Lauder, HUFFINGTON POST, *supra* note 243.

272. Lauder, *Venture Capital*, *supra* note 64, at 15.

273. McCracken, *supra* note 222.

to challenge and delay small business patents. Retired Judge Paul Michel<sup>274</sup> of the United States Court of Appeals for the Federal Circuit noted: “I can guarantee you that if I went into private practice, I could hold up any patent for almost a decade in post-grant proceedings. It would never get to trial in the district court.”<sup>275</sup> This quotation from one of the nation’s top patent judges highlights the inherent dangers of post-grant review for small businesses with fewer financial resources.

Congress justified the addition of this new post-grant review proceeding as a cost-effective legal forum at the USPTO, considering the high costs of frivolous litigation in the courts.<sup>276</sup> However, rather than amend the existing reexamination procedures in the patent system, Congress added an additional opportunity to challenge the validity of patents and hold them up in legal proceedings at the USPTO.<sup>277</sup> Challenging a patent takes resources; if misused, a bigger company with the resources to frivolously conduct such litigation will likely do so over a smaller company, regardless of the House Report’s caveat.<sup>278</sup> Big companies may argue that it is wrong to assume that because they have the resources, they will misuse the proceeding, but creating a post-grant review will lead to a slippery slope—big companies will now have an additional avenue to challenge small business patents.

A sub-section under the post-grant review section directly addresses the consequences of abusing the privileges of the post-grant proceeding and prescribes “sanctions.”<sup>279</sup> However, no

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274. Vernon M. Winters, Judicial Profile, *Hon. Paul R. Michel, Chief Judge, U.S. Court of Appeals for the Federal Circuit*, THE FEDERAL LAWYER, Feb. 2008. Judge Michel served as Chief Judge of the Federal Circuit from 2004 until his retirement in 2010. *Id.*

275. Lauder, FORBES, *supra* note 242; see also *Q&A: Judge Paul Michel’s Answers After USBIC Senate Staff Briefing*, YOUTUBE, <http://www.youtube.com/watch?v=mVuQ5CK5g5E> (last visited Nov. 12, 2012).

276. *H.R. 1249, America Invents Act – Constitutionality*, COMM. ON THE JUDICIARY, <http://judiciary.house.gov/issues/Patent%20Reform%20PDFS/HR%201249%201%20p%20ager%20Constitutionality.pdf> (last visited Nov. 12, 2012). Furthermore, the “cost of such proceedings is expected to be 50-100 times less expensive than litigation and could deliver \$8 to \$15 in consumer benefit for every \$1 invested.” *Id.*

277. McCracken, *supra* note 222. As mentioned above, the two existing types of reexamination procedures are *ex parte* and *inter partes* reexaminations. ADELMAN, *supra* note 70, at 621.

278. See H.R. REP. No. 112-98(I), at 48 (2011).

279. Pub. L. No. 112-29, § 6, 125 Stat. 284 (2011). In particular, the AIA states that there will be “sanctions for abuse of discovery, abuse of process, or any other

further mention is made of what these sanctions constitute. If these are to be merely economic sanctions, prescribing them will likely be a drop-in-the-bucket for big businesses with massive resources. Harsher penalties against large companies are needed or else post-grant review should be removed. If such penalties are not imposed, with less at stake, large and well-funded challengers can impose significant costs on smaller patentees by indiscriminately challenging the validity of their patents.<sup>280</sup> Any delay in the processing of patents for small businesses will lead to them possibly not getting venture capital financing for their invention. Further exacerbating this concern is the fact that, unlike the existing review proceedings, post-grant review allows parties to challenge a patent on “any ground of patentability using any evidence of unpatentability.”<sup>281</sup>

Another important concern is the nine-month time limit for bringing patent validity-related challenges under post-grant review.<sup>282</sup> Constant vigilance will be required to timely challenge a patent; otherwise, a party forever loses the opportunity to do so.<sup>283</sup> Only big companies with a stable of in-house counsel and legal staff can afford to constantly monitor the availability of newly issued patents and challenge them in time.<sup>284</sup> Again, the advantage tips in favor of big businesses.

Finally, evidence from other countries suggests negative effects would follow from a post-grant review. During the House floor debates, Representative Don Manzullo (R-IL) referred to how Japan dropped its post-grant review in 2004 because it consumed 20% of their patent office resources.<sup>285</sup> Additionally, in Europe, which has a similar post-grant review proceeding to the AIA version, patents are challenged more frequently than in the U.S.<sup>286</sup> Even worse, most European challenges are solely for

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improper use of the proceeding, such as to harass or to cause unnecessary delay or an unnecessary increase in the cost of the proceeding.” *Id.*

280. Ahmann & Rodewald, *supra* note 152, at 11.

281. *Id.* at 11 n.31.

282. Pub. L. No., 112-29, § 6, 125 Stat. 284 (2011).

283. Julie Samuels, *Patent Reform Legislation Set to Become Law, But Will Make Few Meaningful Changes*, ELEC. FRONTIER FOUND. (Sept. 6, 2011), <https://www.eff.org/deeplinks/2011/09/patent-reform-legislation-set-become-law-will-make>.

284. Ahmann & Rodewald, *supra* note 152, at 11.

285. 157 CONG. REC. H4428 (2011).

286. *Id.*

strategic and competitive purposes.<sup>287</sup> Therefore, instead of being a more cost-effective alternative to litigation and other expensive proceedings, post-grant review will likely encourage more patent challenges and further consume USPTO resources.

### 3. NEW PRIOR COMMERCIAL USE DEFENSE

Despite removing interference proceedings that determine the identity of the earlier inventor, Congress paradoxically added a new defense to infringement based on proving earlier inventorship, as long as it was in “commercial use.”<sup>288</sup> This provision raises questions because only a big company with the resources to perform all aspects of manufacturing the invention in-house, is likely to have an invention in prior commercial use.<sup>289</sup> Thus, the likely beneficiaries of this new defense are large corporations that regularly face patent infringement lawsuits and have the ability to prove prior commercial use.<sup>290</sup>

#### C. THE UGLY: OTHER UNINTENDED EFFECTS ON SMALL BUSINESSES

In addition to the above-mentioned bad effects of the AIA on small businesses, there are even worse consequences. These ugly consequences will not only adversely affect small businesses, but will also be detrimental to the patent system as a whole.<sup>291</sup> First,

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287. Massey, *supra* note 234, at 11.

288. Pub. L. No. 112-29, § 5, 125 Stat. 284 (2011).

289. See Rantanen & Petherbridge, Debate, *supra* note 142, at 233 (stating that “[f]irms with established market power—manufacturers, for example—benefit from this shift because they are able to monetize such inventions directly through internal application”).

290. Ahmann & Rodewald, *supra* note 152, at 12.

291. However, this Comment will not attempt to analyze one of the major criticisms levied against the new first-inventor-to-file system—that it is unconstitutional. The argument for or against constitutionality boils down to how the term “Inventors” in the Patent Clause is interpreted. Art. 1, § 8, cl. 8 of the Constitution states that “Congress shall have the power . . . [t]o promote the Progress of Science and useful Arts, by securing for limited Times to Authors and *Inventors* the exclusive Right to their respective Writings and Discoveries.” (emphasis added). Proponents of the AIA argue that since the Patent Clause does not explicitly say “first inventor,” and since the new system still rewards an “inventor” who files first, the AIA is constitutional. *H.R. 1249, America Invents Act – Constitutionality*, COMM. ON THE JUDICIARY, <http://judiciary.house.gov/issues/Patent%20Reform%20PDFS/HR%201249%201%20p%20Constitutionality.pdf> (last visited Nov. 12, 2012). On the other hand, opponents of the AIA argue that the priority of invention does matter because once something has been invented, it cannot be subsequently invented again. Michael A.

the AIA tilts the balance between patents and trade secrets towards trade secret protection and away from patent protection. Second, the AIA will worsen the pending patent backlog problem in the USPTO, further damaging small businesses. Third, small business patents will be issued at a lower rate than big business patents, hurting overall innovation and job growth.

### 1. TILTS PATENT-TRADE SECRET BALANCE AWAY FROM PATENTS

A crucial unintended consequence of the AIA is that it shifts the balance between patents and trade secrets towards those who hoard such trade secrets.<sup>292</sup> When a company creates a new idea, the most common way to protect the idea is through either patent or trade secret protection.<sup>293</sup> A trade secret is “information that has economic value from not being known to or readily ascertainable by those who could gain value from its use or disclosure, and is the subject of reasonable security measures – in short, information that is economically valuable because it is kept secret.”<sup>294</sup> Unlike patent protection, trade secret protection does not expire and is protected as long as the information remains a secret, and reasonable security measures are taken to keep it a secret.<sup>295</sup> Big companies, with substantial ability to accumulate trade secrets, will choose trade secrets over patent protection to extend the commercial viability of their inventions for longer than the twenty-year period they would have gotten with patent protection. Alternatively, small companies are less likely to choose trade secret protection because they do not have the

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Glenn & Peter J. Nagle, *Article I and the First Inventor to File: Patent Reform or Doublespeak?*, 50 IDEA 441, 451 (2010). In other words, since the AIA essentially replaces “inventors” with “filers,” the AIA is unconstitutional.

292. McCracken, *supra* note 222.

293. John L. DuPre & James M. Smith, *When to Choose Trade Secret Protection Over a Patent*, INTELL. ASSET MAG., Jan. 2011, <http://www.iam-magazine.com/issues/article.ashx?g=a8dcdf43-9d40-45cd-8ed6-19816b41a712>.

294. MCJOHN, *supra* note 158, at 343. Examples of information protectable as trade secrets include “customer lists; manufacturing methods; chemical processes, formulas, and related equipment; computer program code; marketing data and strategies; blueprints for machines; geological data gained from surveys; [and] genetic information.” *Id.* at 343-44.

295. MCJOHN, *supra* note 158, at 345. On the other hand, trade secret protection can be lost “if competitors can reverse engineer the information or develop the information independently, or if use of the information requires disclosing it to numerous people.” *Id.*

resources to accumulate their inventions as trade secrets.<sup>296</sup> This tilt towards increased trade secret use is bad because of its potential to increase the problems faced by the patent system, especially the issuance of low-quality patents.<sup>297</sup> The quality of patents depends on the information made available by patentees to the patent examiners at the USPTO.<sup>298</sup> However, greater ability to use trade secrets encourages such patentees to avoid fully complying with the patent application disclosure requirements.<sup>299</sup> “Corporations that aggressively protect information they deem a trade secret and who ‘file early [and] file often,’ will be inclined to file bare-bones or misleading patent applications and to resist requests from examiners to supplement their files.”<sup>300</sup> In short, the tilt further away from patent protection presents concerns regarding its effect on the patent system. This patent-trade secret balance tilts towards trade secret protection because of: (a) the elimination of best mode as a defense to patent infringement, and (b) the creation of the new “prior commercial use” defense.

#### a. Elimination of Best Mode as a Defense to Infringement

Under the AIA, inventors must disclose the best mode of practicing an invention, but, because it is no longer available as a defense to patent infringement, patentees will not be held liable for not disclosing their best mode.<sup>301</sup> Requiring inventors to disclose the best mode of an invention, but not holding them liable for non-disclosure, is illogical. This lack of liability will give inventors an incentive towards non-disclosure of the best mode for practicing the invention. Consequently, inventors will be motivated to protect the best mode as a trade secret. In other words, inventors have a strong incentive to conceal the best method of practicing their invention from the public indefinitely.

Furthermore, big businesses are more likely to conceal the

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296. See MCJOHN, *supra* note 158, at 345 (stating that obtaining trade secret protection “may require broader efforts [by companies] by instituting an entire program to create and administer reasonable measures to keep the information secret, while at the same time permitting access to employees and others to exploit the information”).

297. Mazzone & Moore, *supra* note 108, at 53.

298. *Id.*

299. *Id.* at 54.

300. *Id.* at 55 nn.101-02.

301. Pub. L. No., 112-29, § 15, 125 Stat. 284 (2011).

best mode of their invention than small businesses. Small businesses have more at stake in filing their patents. Getting a patent is critical for a start-up or small business that needs funding.<sup>302</sup> In other words, the success or failure of the company will depend on the issuance and subsequent commercialization of that patent. Thus, the failure to comprehensively disclose all aspects of an invention in a patent application, including the best mode, will hurt a start-up more than a big business.<sup>303</sup> For example, it is very unlikely that a big company such as Microsoft, with more than 19,000 patents issued since 1998,<sup>304</sup> will particularly worry about expending too much time and effort to determine and disclose the best mode of practicing the invention because an individual patent is likely worth much less to them than to a small business.

#### b. Creation of Prior Commercial Use Defense

The main risk with choosing trade secret protection over patent protection is the possibility that another inventor will independently patent the same invention, and then sue the trade secret holder for infringement.<sup>305</sup> Luckily for large companies choosing trade secret protection, Congress added a new provision whereby prior commercial use will count as a defense to patent infringement if it concerns an “internal commercial use.”<sup>306</sup> A big company can now commercially profit from an invention, as long as the invention is manufactured “internally,”—within the four walls of the company—and further benefit by not having to

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302. Gene Quinn, *Patent Strategy: Laying the Foundation for Business Success*, IP WATCHDOG (Apr. 8, 2012), <http://www.ipwatchdog.com/2012/04/08/patent-strategy-laying-the-foundation-for-business-success-2/id=23998/>.

303. Ahmann & Rodewald, *supra* note 152, at 6.

304. Timothy Lee, *The Real Victims in the Patent Wars*, SLATE MAG., Feb. 27, 2012, [http://www.slate.com/articles/technology/future\\_tense/2012/02/patent\\_wars\\_silicon\\_valley\\_and\\_diy\\_software\\_innovators\\_2.html](http://www.slate.com/articles/technology/future_tense/2012/02/patent_wars_silicon_valley_and_diy_software_innovators_2.html).

305. Schacht & Thomas, *supra* note 104, at 7.

306. Pub. L. No., 112-29, at § 5. Senate discussions reveal that examples of internal commercial use include products consisting of “tools or other devices that are used only by the inventor inside his closed factory” and “substances that are exhausted in a manufacturing process and never become accessible to the public.” 157 CONG. REC. S5430 (2011). Further, the defense can also apply to “products that are not used to make a useful end result that is sold to others, but that are used in an internal commercial process” – an example being customized software used to run a business’ human-resources system. *Id.* The defense can be asserted as to a product as long as the product’s use is “integrated into an ongoing commercial process, and not merely fleeting or experimental or incidental to the enterprise’s operations.” *Id.*

disclose their inventions to the public.

The pre-AIA system encourages inventors to obtain patent protection rather than hide their inventions from the public and commercially profit from them. This is true because, under the current system, no prior commercial use defense exists to bail out the trade secret holders in case another inventor patented the invention and sued for infringement. Conversely, under the AIA, because an alleged infringer can claim to be a prior commercial user as a defense to patent infringement, nothing stops the infringer from attaining trade secret protection over patent protection. In fact, big businesses might decide not to obtain either patent or trade secret protection. Instead, the big business could solely rely on the prior commercial user defense to secretly profit from the invention indefinitely. By increasing the “value of secrecy as an option for monetizing inventions,” the AIA takes a step back with regards to the goal of patent law: to disseminate information to the public.<sup>307</sup>

The only caveat to using this defense is that the commercial use must have occurred at least one year before the effective filing date.<sup>308</sup> However, this is unlikely to affect most big businesses because they must merely be cautious in keeping the commercial use of the invention “in-house.” This secret commercial use should not be difficult for a big company with massive resources. Additionally, the big company could require its employees to sign non-disclosure agreements, which should be sufficient to deter the employees from disclosing the invention.

## **2. THE AIA WILL LEAD TO EVEN LOWER QUALITY SMALL BUSINESS PATENTS THAN BEFORE, AND FURTHER INCREASE THE BACKLOG OF PENDING PATENTS**

The race to the USPTO under a first-inventor-to-file system will lower the quality of small business patents and increase litigation. Without the same cushions available in the first-to-invent system, a small business will have to submit poorly drafted applications due to time constraints,<sup>309</sup> which will

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307. Jason Rantanen, *Law Professors and their Initial Remarks on the Leahy-Smith Patent Reforms*, PATENTLY-O BLOG (Sept. 11, 2011), <http://www.patentlyo.com/patent/2011/09/lawprofessorquotes.html>; see also U.S. CONST. art. I, § 8, cl. 8.

308. Pub. L. No. 112-29, § 5, 125 Stat. 284 (2011).

309. Massey, *supra* note 234; see also Conley, *First-to-Invent*, *supra* note 232, at

inevitably lead to litigation regarding low quality patents.<sup>310</sup> On the other hand, big companies with “platoons of scientists and lawyers” can easily scan the horizon for news of new inventions, and quickly file better quality patent applications.<sup>311</sup> Additionally, further proof of likely lower quality patents is evidenced by the fact that first-to-file Japanese patent applications lag far behind their American counterparts in patent disclosure breadth.<sup>312</sup>

Additionally, one of the AIA’s stated goals is a reduction of the backlog of pending patents at the USPTO.<sup>313</sup> However, the AIA will likely lead to more applications being filed due to its emphasis on the first filer receiving the patent.<sup>314</sup> When Canada switched to a first-to-file system, total patent applications increased by nearly 50% between 1988 and 1990.<sup>315</sup> Not only is this consequence dangerous to the patent system as a whole, but these consequences disadvantage small businesses more than big businesses. If more applications are filed and the backlog of pending patents worsens, then small businesses will have to wait longer than the current three-year waiting period. With the fast-rising pace of technology, it is likely that by the time the patent is granted, the technology will be obsolete, thus putting the small business or independent inventor out of work. Alternatively, big businesses depend less on their patents and more on their strong market power and financial resources to survive.<sup>316</sup> Thus, unlike small businesses, big businesses are unlikely to be greatly affected by a rise in the backlog of pending patents at the USPTO.

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789 (noting that the first-to-file system will lead to “sketchy disclosures” and “encourage speculative filing of applications on unproven inventions by ‘idea men’ rather than actual development of useful inventions, and would retard rather than promote progress”).

310. Massey, *supra* note 234.

311. Clyde V. Prestowitz, *The Prevent American Invention Act*, FOR. POLICY, May 16, 2011, [http://prestowitz.foreignpolicy.com/posts/2011/05/16/the\\_prevent\\_american\\_invention\\_act](http://prestowitz.foreignpolicy.com/posts/2011/05/16/the_prevent_american_invention_act).

312. Simon, *supra* note 84, at 137 n.65.

313. WHITE HOUSE, OFFICE OF PRESS SECRETARY, *supra* note 62.

314. Charles Gorenstein, *The America Invents Act – Panacea or Just Pain for the PTO?*, IPWATCHDOG (Nov. 27, 2011), <http://www.ipwatchdog.com/2011/11/27/the-america-invents-act-panacea-or-just-pain-for-the-pto/id=20584/>.

315. Lauder, *Venture Capital*, *supra* note 64, at 17.

316. *Id.* at 19.

### 3. SMALL BUSINESS PATENTS WILL BE ISSUED AT A LOWER RATE THAN BIG BUSINESS PATENTS

The AIA contains a new mini-provision for “prioritization of examination of applications for products, processes, or technologies that are important to the national economy or national competitiveness.”<sup>317</sup> Businesses can potentially have patents reviewed in one-third of the time with a guaranteed twelve-month turnaround.<sup>318</sup> This provision will move an application to the “front of the line” for examination purposes.<sup>319</sup> The provision applies to both small and large businesses; the fee being \$4,800 for large entities, and \$2,400 for small businesses.<sup>320</sup> Thus, while this “prioritized examination” expedites the examination process, it only does so for those willing and able to pay a large fee.<sup>321</sup> This new fee, along with high patent attorney’s fees mentioned previously, may result in unreasonable costs to small businesses. Hence, despite its good intentions, this new provision indirectly favors big businesses with greater financial assets than small businesses—big businesses with available monetary resources will not blink at paying \$4,800 for all of their pending patents. Further, arguing that their product is “important to the national economy” or nationally competitive will not be difficult for a smart patent attorney, especially considering the vagueness of these terms. Therefore, this requirement will move all pending big business patent applications to the front of the line. Consequently, small business patents will likely be issued at a lower rate than big business patents.

### IV. PROPOSALS AND COUNTER-ARGUMENTS FOR AMENDING THE AIA TO HELP SMALL BUSINESSES

To fix the negative effects of the AIA on small businesses, Congress should consider amending the AIA in the following ways: create a first-to-invent exception for small businesses,

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317. Pub. L. No., 112-29, § 25, 125 Stat. 284 (2011).

318. Quentin Palfrey, *The America Invents Act: Turning Ideas into Jobs*, THE WHITE HOUSE BLOG (Sept. 16, 2011), <http://www.whitehouse.gov/blog/2011/09/16/america-invents-act-turning-ideas-jobs>.

319. Coblenz, *supra* note 207.

320. *Id.*

321. *Id.*

extend the grace period for small businesses, remove post-grant review proceedings entirely, and, lastly, repeal or amend the best mode requirement.

#### A. CREATE A FIRST-TO-INVENT EXCEPTION FOR SMALL BUSINESSES

Accounting for the extreme importance of small businesses to the overall economy and net job growth, Congress should create an exception to the AIA whereby small businesses can choose to be judged by either the first-to-invent or first-inventor-to-file systems when applying for patents. Keeping in mind the advantage such an exception would create in a competitive market, once the small business chooses an option, it would be estopped from later claiming priority using the system not chosen. Additionally, if a small business chooses the first-to-invent option, it must submit detailed records of inventorship, dating from conception to reduction to practice. Due to the special status small businesses would gain by receiving such special treatment, they would be required to strictly follow the requirement of turning in detailed records of inventorship. As a consequence for non-compliance with this requirement, i.e., if they checked off the first-to-invent box in the patent application but did not submit corresponding relevant and detailed inventorship records, they would be moved into the first-inventor-to-file group of applications. The presence of these boxes on the patent application puts the onus on small businesses to help themselves and gives them a choice in determining their fate, while not being completely at the mercy of big businesses. If any inventorship issues arose, they could be resolved in the derivation proceedings that Congress created under the AIA.<sup>322</sup>

It is also important to consider what would happen if there were two similar inventions with different priority systems. First, if priority issues arose between a first-to-invent patent and a first-inventor-to-file patent, a first-to-invent patent should be given priority *only if* a small business holds it. If a big business holds a first-to-invent patent, they would still lose rights to the patent to the first-inventor-to-file under the AIA. As established above, a first-to-invent patent system is more preferable for a small business over a first-inventor-to-file system; thus, any proposals amending the AIA should be directed to leveling the

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322. See *supra* Section III.B.1.a.

playing field between big and small businesses. Second, if priority issues arose between two first-to-invent patents, the patent with the earlier conception date should be given priority, unless the above-mentioned exceptions apply.<sup>323</sup> This situation exists in the current first-to-invent patent system. Lastly, if priority issues arose between two first-to-file patents, the patent with the earlier filing date should be given priority.<sup>324</sup> This situation will exist in the AIA first-inventor-to-file system.

Big companies may argue about the general unfairness of the exception applying only to small businesses. Also, critics may argue that having two systems for different-size companies will create confusion and more delay in the processing of patents. However, this special small business exception is fair considering the extreme advantage big businesses will have over small businesses once the AIA provisions are implemented.<sup>325</sup> Unlike under the AIA, allowing small businesses to retain the first-to-invent exception is important to maintain the American entrepreneurial spirit and further America's status as a global leader of innovation and technology. This exception does not give small businesses a competitive advantage. Rather, it merely attempts to level the playing field, and reduce disparities between small and big businesses that will be created by the AIA.

Ultimately, this amendment will rely on two competing factors: (1) balancing issues of fairness for small businesses against big businesses (using a "multiple system"—first to invent *and* first inventor to file) versus (2) the smoothness and ease of use of having one system—but one with extremely unfair advantages in favor of big businesses. In performing this balance, it is important to note that despite the value of patents, big companies can survive with a weakened patent system by relying on their strong market power and resources.<sup>326</sup> On the other hand, small company innovation and investment "lives and dies by a strong patent system."<sup>327</sup> All things considered, the established importance of small businesses tips the balance in favor of a "multiple system" that places small businesses on a level playing field with big businesses.

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323. *See supra* Section II.C.1.a.

324. *See supra* Section II.C.1.a.

325. *See supra* Section III.B-C.

326. Lauder, *Venture Capital*, *supra* note 64, at 19.

327. *Id.*

As for concerns regarding confusion and delay, the only change under this proposal is to have two “tracks:” a first-to-invent track and a first-to-file track. This change can be implemented using the USPTO’s new “fee-setting authority,” which allows the USPTO “director to adjust fees to better adjust to market conditions and help reduce the time it takes to review and issue a patent to get it into market quickly and efficiently.”<sup>328</sup> In fact, the USPTO itself has stated that this new authority will allow them to hire thousands of new examiners over the coming years and upgrade their infrastructure to support the work of those examiners.<sup>329</sup>

Proponents of the AIA may argue that there is no need for a multiple system because the first-to-file system helps small businesses by requiring big businesses to adhere to levels of strict company guidelines when submitting a patent application.<sup>330</sup> On the other hand, a small business can streamline its invention pipeline process by easily submitting the application without all the “red tape.”<sup>331</sup> However, this argument is rebuttable: because a small business will likely take longer than a big business to file a well-drafted, fully-disclosing patent application.<sup>332</sup> This is so because a small business is much more likely to depend on this one invention for its commercial success—a big business likely has numerous other patented and patentable inventions.

Lastly, proponents of the AIA may also argue that small businesses can overcome the negative effects of a first-to-file system by filing “provisional”<sup>333</sup> applications that serve as

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328. *H.R. 1249, America Invents Act*, COMM. ON THE JUDICIARY (June 2011), <http://judiciary.house.gov/issues/Patent%20Reform%20PDFS/062011%20HR%201249%201%20pager.pdf>.

329. Richard Maulsby, Associate Commissioner for Innovation Development, USPTO Speech (Sept. 29, 2011), *available at* [http://www.uspto.gov/aia\\_implementation/9-29-11\\_maulsby-speech.pdf](http://www.uspto.gov/aia_implementation/9-29-11_maulsby-speech.pdf).

330. John E. Boyd, *2011 America Invents Act: How Will the Patent Reforms Impact Startups?*, LAWPIVOT BLOG (Sept. 30, 2011), <http://blog.lawpivot.com/2011/09/2011-america-invents-act-how-will-the-patent-reforms-impact-startups/>.

331. *Id.*

332. The quality of the patent matters because “the better written the patent, the better the protection [the] patent will produce.” Mary Bellis, *Turning an Invention Idea into Money, Lesson Six: How do I Apply for a Patent?*, ABOUT.COM INVENTORS, <http://inventors.about.com/od/firststeps/a/application.htm> (last visited Nov. 12, 2012).

333. A provisional patent application allows filing without a formal patent claim, oath or declaration, or any prior art statement; it also provides the means to establish an earlier effective filing date than a later filed non-provisional patent application. *Background, Provisional Application for Patent*, U.S. TRADEMARK AND

placeholders for twelve months until the ultimate filing of the application.<sup>334</sup> However, big companies have the same ability to file provisional applications. If the issue comes down to who can file provisional applications faster, it will most likely be the larger company with more resources.

### **B. EXTEND THE ONE-YEAR GRACE PERIOD FOR SMALL BUSINESSES BY AT LEAST SIX MONTHS**

As Representative Jackson Lee (D-TX) recommended during the House floor debates, Congress should extend the one-year grace period by at least six months for small businesses.<sup>335</sup> Doing so would benefit small businesses by providing them with additional time to seek venture capital funding and perfect their invention.

Critics may argue that there is no need to give small businesses an additional six months because the current twelve-month period is sufficient. Furthermore, it could be argued that under the new first-inventor-to-file system, the extra six-months will not matter because big businesses will file quickly and beat the small business to the USPTO. While this may be true, the proposal for an eighteen-month grace period arises out of policy and fairness considerations, rather than practical considerations. As mentioned above, big businesses have an advantage over small businesses in almost every amended or new provision in the AIA. This extension would only give small businesses an extra “cushion,” and, at the very least, put them on a level playing field with big businesses. In light of the uphill battle a small business still faces under the AIA, giving the small business an extra six-months to perfect its invention can only help.

### **C. REMOVE POST-GRANT REVIEW PROCEEDINGS**

Congress should remove the new post-grant review proceeding. This proceeding gives infringers an additional avenue to challenge and delay patents. As mentioned above, small businesses are already extremely burdened by the three-year waiting period to receive patents. Rather than directly

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PATENT OFFICE (Feb. 2011), <http://www.uspto.gov/patents/resources/types/provapp.jsp>.

334. *W&L Professor Predicts Advantages to New Patent Law*, WASHINGTON & LEE UNIV., <http://www.wlu.edu/x55650.xml> (last visited Nov. 12, 2012).

335. 157 CONG. REC. H4426 (2011).

trying to lessen this waiting period by amending the two existing post-grant proceedings, Congress instead added a new proceeding providing big businesses with an additional tool to harass small businesses. With this additional harassment tool, small business patents will take even longer to be granted, indirectly stunting overall job growth.<sup>336</sup> Instead, Congress should simply remove the new post-grant proceeding.

#### D. REPEAL OR AMEND THE BEST MODE REQUIREMENT

Congress should either remove the best mode requirement from the AIA as an affirmative disclosure requirement or reinstitute the availability of best mode as a defense to patent infringement. Keeping best mode as a disclosure requirement without maintaining it as a defense renders the requirement moot and only helps big businesses hoard best modes of their inventions as trade secrets.

Removal of best mode as a defense to patent infringement is supported by several factors. First, as mentioned in the House Report, challenges based on best mode are subjective and irrelevant by the time the patent is in litigation.<sup>337</sup> Another factor advocating the removal of best mode is that, in a first-inventor-to-file system, an inventor will find it difficult to disclose the best mode of an invention if he does not have sufficient time to test the invention to determine the best mode.<sup>338</sup> To accurately disclose the best mode of an invention, an inventor must build a working prototype or further develop an invention through experimentation.<sup>339</sup> Therefore, keeping in mind the overall goal of helping small businesses, as well as the subjective nature of best mode challenges, removing the best mode requirement entirely might be the best solution.

Alternatively, Congress could keep the current AIA provisions, but reinstate best mode as a defense; albeit one that can only be brought in one of the existing re-examination proceedings,<sup>340</sup> not in court. This amendment would give a small

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336. For a discussion on how delaying small business patents will indirectly stunt overall job growth, see *supra* Section I.

337. H.R. REP. No. 112-98, at 52 (2011).

338. WEALTH OF IDEAS, *supra* note 33.

339. *Id.*

340. As mentioned above, the two existing types of reexamination procedures are *ex parte* and *inter partes* reexaminations. ADELMAN, *supra* note 70, at 621.

business tremendous reprieve from expensive litigation over their patents in court, especially potentially frivolous subjective challenges based on best mode.

Critics may argue that removing best mode as a requirement will do nothing to stop big businesses from accumulating more inventions as trade secrets, which would be true even under the pre-AIA law. However, removing best mode will at least eliminate another avenue for infringers to attack the validity of small business patents without merit.

A final point must be made regarding a possible counter-argument by big businesses—that, because the Patent Clause’s primary purpose is “to promote the progress of [science],”<sup>341</sup> it does not matter *who* eventually receives a patent, but, rather, *that* inventions are made. This argument can be rebutted for two reasons. First, as mentioned in Section I, small businesses represent 99.7% of all businesses and represent the source of the majority of net job growth in the economy.<sup>342</sup> It can be inferred from this fact that granting more patents to small businesses stimulates the economy and creates more jobs. Second, some of the greatest inventions in history have come from independent inventors or small businesses. For example, Larry Page and Sergey Brin co-founded Google in 1998 while working out of a friend’s garage.<sup>343</sup> Squelching the incentive to innovate in the small-business market will have substantial repercussions on future innovation and will potentially deprive the world of the next Google.

## V. CONCLUSION

If the United States is to continue to grow and expand, and if innovation is at the heart of this new horizon, then small businesses that are more innovative, in a head to head competition with large businesses, must be given the mantle to lead our nation to its next level of prosperity.<sup>344</sup>

Congress had no need to tinker with what has been

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341. See U.S. CONST. art. 1, § 8, cl. 8.

342. See *supra* Section I.

343. *Larry Page, Billionaire List*, FORBES, <http://www.forbes.com/lists/2006/10/XFXI.html> (last visited Nov. 12, 2012).

344. Clark & Saade, *supra* note 16, at 11.

acknowledged as the strongest patent system in the world.<sup>345</sup> Any problems that currently exist, such as the high patent backlog at the USPTO, did not arise out of the first-to-invent system or rarely occurring interference proceedings.<sup>346</sup> Rather, the backlog likely arose out of administrative inefficiencies and insufficient funding at the USPTO, as well as a shortage of patent examiners.<sup>347</sup> Additionally, changing the entire system, in the name of harmonization, to fit the mold of a weaker foreign system only helps large, multinational companies because they mainly deal with such foreign systems. The regular American small business owner does not generally seek foreign patent protection.<sup>348</sup> Even if a small business happened to seek international patent protection, Congress could have fixed the problems with the patent system in a better way than drastically changing what worked for two hundred years.<sup>349</sup>

As it stands, the AIA impermissibly gives big businesses an extreme advantage over small businesses. Taking into account the importance of small businesses to the U.S. economy and net job growth, Congress should make the following changes to fix this disparity:

First, Congress should create an exception to the AIA whereby small businesses can choose to be judged by either the first-to-invent or first-inventor-to-file systems when applying for patents. Despite likely initial confusion over the two systems, this multisystem will be fairer and place small businesses on a level playing field with big businesses. Second, the grace period should be extended to give small businesses more time to perfect their invention before submitting a patent application. Third, post-grant review proceedings should be removed because they give infringers another avenue to challenge patents. Lastly, the best mode requirement should be removed because it presents no substantial advantages, but many disadvantages, to patentees.

Even if Congress is unlikely to implement all of the above proposals, the implementation of the first-to-invent exception, at

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345. See Richard Maulsby, *supra* note 329 (stating that the AIA helps assure that America's patent system remains the strongest in the world).

346. See Mazzone & Moore, *supra* note 108, at 52.

347. *Id.*

348. See Rantanen & Petherbridge, Debate, *supra* note 142, at 245-46.

349. See *id.* at 230 (stating that "[f]or over two hundred years, American patent law has given priority of right to those who were first in time to an invention").

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the very least, will help bring the focus of the patent system back to where innovation will be at its premium—small businesses.

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