

Online Appendix:  
The Role of Reviewer Characteristics on the Diversity of  
Successful Applicants

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## A Online Appendix

Table A.1: Variable definitions

Variable	Definition	Source
<b>Female Inventor</b>	Dummy variable equal to 1 if the applicant's first name is identified as female	United States Social Security Administration (SSA)
<b>Examiner Female</b>	Dummy variable equal to 1 if the examiner's first name is identified as female	United States Social Security Administration (SSA)
<b>Examiner Experience</b>	The filing year of an application minus the year of the first appearance of the examiner in the database	USPTO examination dataset
<b>Examiner Workload</b>	Number of active applications - new filings & filings form previous years without a final decision during the filing year of an application.	USPTO examination dataset
<b>Assignee</b>	Dummy variable equal to 1 if the patent applications is assigned to an assignee	PATSTAT
<b>Small Entity</b>	Dummy variable equal to 1 if the applicant has small entity status. Small entity status is granted to inventors without an assignee, and inventors that assign the ownership right to other individuals, to non-profit organizations or other entities with not more than than 500 employees, including affiliates. The small entity status implies a fee reduction by 50 percent.	USPTO examination dataset
<b>Family Size</b>	Number of patent offices at which a given application invention has been filed	PATSTAT
<b>No of indep claims</b>	Number of independent claims stated in a patent. The claims described in the patent application define the legal boundaries of patent rights - more independent claims contribute to the breadth and depth of a patent.	USPTO patent claims dataset
<b>No of dep claims</b>	Number of dependent claims stated in a patent. Dependent claims relate to an independent claim and limits its scope.	USPTO patent claims dataset
<b>Claims Ratio</b>	Number of dependent claims per independent claim	USPTO patent claims dataset
<b>Patent Scope</b>	Number of 4-digit IPC classes assigned to the application	PATSTAT
<b>Backward Citations</b>	Number of US patents that are cited by the application	PATSTAT
<b>Nr of Previous Applications</b>	Number of applications filed by the inventor before the filing date of an application	USPTO examination dataset
<b>Nr of Previous Grants</b>	Number of granted patents to the inventor before the filing date of an application	USPTO examination dataset
<b>Grade</b>	Grade scale of the examiner in the filing year of the application	Frakes and Wasserman (2017)

Table A.2: Correlation matrix

	Female Inventor (FI)	Granted Application	Examiner Female	Examiner Experience	Examiner Workload	Assignee	Small Entity	Family Size	Independent Claims	Dependent Claims	Patent Scope	Backward Citations	Nr of Previous Apps	Nr of Previous Grants
Female Inventor (FI)	1.000													
Granted Application	-0.067	1.000												
Examiner Female	0.044	-0.051	1.000											
Examiner Experience	0.003	0.127	-0.088	1.000										
Examiner Workload	-0.002	0.154	-0.075	0.572	1.000									
Assignee	-0.049	0.351	-0.033	0.023	0.001	1.000								
Small Entity	0.067	-0.257	0.050	0.046	0.053	-0.381	1.000							
Family Size	-0.024	0.115	0.001	0.020	0.025	0.065	-0.143	1.000						
Independent Claims	-0.006	0.016	-0.003	-0.057	-0.053	0.007	-0.033	0.026	1.000					
Dependent Claims	-0.015	0.042	0.011	-0.043	-0.033	0.017	0.001	0.053	0.337	1.000				
Patent Scope	-0.013	0.204	0.007	0.007	0.019	0.064	-0.083	0.154	0.063	0.061	1.000			
Backward Citations	-0.008	0.025	-0.002	-0.061	-0.025	0.009	0.030	0.057	0.082	0.161	0.005	1.000		
Nr of Previous Apps.	-0.041	0.071	-0.008	0.002	-0.011	0.104	-0.169	0.035	-0.010	-0.029	0.025	-0.017	1.000	
Nr of Previous Grants	-0.039	0.087	-0.008	0.002	-0.007	0.105	-0.173	0.034	-0.011	-0.027	0.028	-0.017	0.984	1.000

**Note:** The table shows the pair-wise linear correlation coefficients for Each observation is a single-authored patent application.

Table A.3: Patent Application Characteristics by Gender and Granted Status

Application Outcome	(1)	(2)	(3)	(4)
	Not Granted		Granted	
Applicant	Male	Female	Male	Female
Assignee	0.450 (0.497)	0.401 (0.490)	0.790 (0.408)	0.736 (0.441)
Small Entity	0.524 (0.499)	0.648 (0.477)	0.276 (0.447)	0.348 (0.476)
Family Size	2.972 (4.141)	2.510 (3.231)	3.949 (4.372)	3.822 (4.848)
Independent Claims	2.815 (2.380)	2.726 (2.409)	2.883 (2.231)	2.883 (2.152)
Dependent Claims	15.13 (11.81)	14.07 (11.43)	16.13 (12.96)	15.90 (11.37)
Claims Ratio	6.692 (5.424)	6.394 (5.358)	6.897 (5.150)	6.905 (5.308)
Patent Scope	1.454 (0.822)	1.446 (0.813)	1.882 (1.112)	1.896 (1.120)
Backward Citations	11.15 (14.50)	10.82 (13.76)	11.94 (16.01)	11.40 (15.13)
Nr of Previous Apps.	11.00 (30.00)	4.649 (36.78)	15.94 (37.47)	11.52 (65.23)
Nr of Previous Grants	8.023 (22.66)	3.271 (30.40)	13.11 (31.49)	9.602 (57.97)
Observations	208052	18547	325279	16657

*Notes:* Each observation is a single-authored patent application.

Table A.4: Patent Application and Examiner Characteristics by Technology Field

Technology Field	(1)	(2)	(3)	(4)	(5)	(6)	(7)
	Chemistry	Computers & Communication	Drugs & Medical	Electrical & Electronic	Mechanical	Others	Total
Female Inventor (FI)	0.060 (0.238)	0.056 (0.230)	0.103 (0.305)	0.040 (0.195)	0.034 (0.181)	0.092 (0.289)	0.062 (0.241)
Granted Application	0.576 (0.494)	0.616 (0.486)	0.494 (0.500)	0.718 (0.450)	0.672 (0.469)	0.491 (0.500)	0.601 (0.490)
Granted Female Apps.	0.031 (0.174)	0.032 (0.175)	0.041 (0.198)	0.027 (0.161)	0.020 (0.140)	0.031 (0.173)	0.029 (0.169)
Examiner Female	0.293 (0.455)	0.200 (0.400)	0.433 (0.495)	0.229 (0.420)	0.196 (0.397)	0.281 (0.449)	0.251 (0.449)
Examiner Experience	10.95 (7.543)	7.792 (5.847)	8.750 (6.125)	9.138 (6.694)	10.44 (7.706)	10.59 (7.461)	9.431 (6.973)
Examiner Workload	2.661 (1.265)	1.873 (1.098)	2.213 (1.147)	2.452 (1.176)	2.672 (1.189)	2.633 (1.252)	2.370 (1.224)
Observations	43705	151588	53525	94299	102336	123082	568535

**Note:** Each observation is a single-authored patent application. The technology fields are defined according to the NBER definition (the most aggregate category level).

Table A.5: Gender Gap in Patenting with Estimates on Control Variables

	(1)	(2)	(3)	(4)	(5)	(6)
	Granted Patent Application					
Female Inventor (FI)	-0.078*** (0.003)	-0.066*** (0.003)	-0.065*** (0.003)	-0.036*** (0.003)	-0.040*** (0.004)	-0.055*** (0.004)
Assignee				0.274*** (0.002)	0.261*** (0.003)	0.240*** (0.003)
Small Entity				-0.073*** (0.002)	-0.080*** (0.003)	-0.103*** (0.003)
Family Size				0.007*** (0.000)	0.010*** (0.001)	0.006*** (0.001)
Nr of Previous Grants				0.000*** (0.000)	0.000*** (0.000)	0.001*** (0.000)
Independent Claims				-0.001*** (0.000)	-0.001 (0.000)	-0.001* (0.001)
Dependent Claims				0.001*** (0.000)	0.002*** (0.000)	0.002*** (0.000)
Patent Scope				0.088*** (0.001)	0.089*** (0.002)	0.106*** (0.002)
Backward Citations				0.002*** (0.000)	0.002*** (0.000)	0.002*** (0.000)
Observations	568535	568535	568535	568535	256144	218547
Art unit-Year FE	x	x	x	x	x	x
Examiner FE	-	x	-	-	-	-
Examiner-Year FE	-	-	x	x	x	x
Sample	Full	Full	Full	Full	Large Art Units	US

**Note:** The dependent variable is the dummy variable whether a patent was granted. Fixed Effects are noted at the bottom. All models include the following control variables: assignee, small entity, family size, number of patent grants obtained previously by the applicant, number of independent claims, number of dependent claims, patent scope, and backward citations. Robust standard errors clustered at the examiner level are reported in parenthesis. Asterisks denote: \*\*\* $p < 0.01$ , \*\* $p < 0.05$ , \* $p < 0.1$ .

Table A.6: The Single Inventor Case: Subsample Analysis

	(1)	(2)	(3)	(4)	(5)	(6)	(7)
	Granted Patent Application						
Female Inventor (FI)	-0.028*** (0.006)	-0.017** (0.008)	-0.030*** (0.009)	-0.028*** (0.010)	-0.015 (0.009)	-0.043*** (0.010)	-0.031*** (0.010)
Examiner Female	0.000 (0.003)	0.002 (0.004)	-0.002 (0.004)	0.001 (0.005)	-0.001 (0.005)	0.001 (0.005)	0.000 (0.004)
FI × Examiner Female	-0.006 (0.006)	-0.013 (0.008)	0.009 (0.009)	-0.004 (0.010)	-0.007 (0.010)	-0.006 (0.011)	-0.005 (0.010)
Examiner Experience	0.004*** (0.000)	0.004*** (0.000)	0.004*** (0.000)	0.004*** (0.000)	0.004*** (0.000)	0.003*** (0.000)	0.004*** (0.000)
FI × Examiner Experience	0.001 (0.001)	0.000 (0.001)	0.000 (0.001)	0.001 (0.001)	-0.000 (0.001)	0.001 (0.001)	0.000 (0.001)
Examiner Workload	0.046*** (0.002)	0.051*** (0.002)	0.045*** (0.002)	0.045*** (0.002)	0.041*** (0.002)	0.047*** (0.002)	0.045*** (0.002)
FI × Examiner Workload	-0.009*** (0.003)	-0.012*** (0.003)	-0.012*** (0.004)	-0.014*** (0.004)	-0.010*** (0.004)	-0.007 (0.004)	-0.011*** (0.004)
Observations	568535	315192	185790	215798	197955	257847	230622
Art unit-Year FE	x	x	x	x	x	x	x
Control Variables	x	x	x	x	x	x	x
Sample	Full	P. Scope = 1	Fam. Size = 1	S. Entity	No Assignee	Large Art Units	US

**Note:** The dependent variable is the dummy variable whether a patent was granted. Fixed Effects are noted at the bottom. All models include the following control variables: assignee, small entity, family size, number of patent grants obtained previously by the applicant, number of independent claims, number of dependent claims, patent scope, and backward citations. Robust standard errors clustered at the examiner level are reported in parenthesis. Asterisks denote: \*\*\* $p < 0.01$ , \*\* $p < 0.05$ , \* $p < 0.1$ .

Table A.7: The Single Inventor Case: Across Tech Fields

		Granted Patent Application					
		Chemistry	Computers & Communication	Drugs & Health	Electrical & Electronic	Mechanical	Others
<b>Panel A</b>							
	Female Inventor (FI)	-0.035 (0.022)	-0.017* (0.010)	-0.018 (0.017)	-0.056*** (0.018)	-0.058*** (0.021)	-0.043*** (0.013)
	Examiner Female	-0.018* (0.010)	0.008* (0.005)	-0.021*** (0.007)	0.016** (0.007)	0.004 (0.009)	0.009 (0.008)
	FI × Examiner Female	0.009 (0.019)	0.018 (0.011)	-0.003 (0.014)	0.024 (0.017)	-0.004 (0.021)	-0.006 (0.013)
	Examiner Experience	0.004*** (0.001)	0.004*** (0.001)	0.004*** (0.001)	0.004*** (0.001)	0.003*** (0.001)	0.004*** (0.001)
	FI × Examiner Experience	0.000 (0.001)	0.001 (0.001)	-0.001 (0.001)	0.001 (0.001)	0.000 (0.001)	0.001 (0.001)
	Examiner Workload	0.035*** (0.004)	0.063*** (0.004)	0.039*** (0.004)	0.043*** (0.003)	0.036*** (0.003)	0.044*** (0.004)
	FI × Examiner Workload	-0.001 (0.009)	-0.006 (0.005)	-0.004 (0.006)	0.006 (0.007)	0.006 (0.007)	-0.011** (0.005)
	Observations	43338	151285	53355	93897	101922	122763
	Art unit-Year FE	x	x	x	x	x	x
	Control Variables	x	x	x	x	x	x
		Granted Patent Application					
		Chemistry	Computers & Communication	Drugs & Health	Electrical & Electronic	Mechanical	Others
<b>Panel B</b>							
	Female Inventor (FI)	-0.023 (0.024)	-0.010 (0.011)	-0.026 (0.018)	-0.058*** (0.019)	-0.052** (0.022)	-0.038*** (0.011)
	FI × Examiner Female	0.011 (0.020)	0.020 (0.012)	-0.000 (0.014)	0.034* (0.018)	-0.007 (0.023)	0.004 (0.010)
	FI × Examiner Experience	0.001 (0.002)	0.001 (0.001)	-0.001 (0.001)	0.001 (0.001)	-0.000 (0.001)	-0.001 (0.001)
	FI × Examiner Workload	-0.008 (0.009)	-0.006 (0.005)	0.004 (0.007)	0.004 (0.008)	0.008 (0.008)	-0.005 (0.004)
	Observations	42195	150490	52844	93071	101049	121944
	Art unit-Year FE	x	x	x	x	x	x
	Examiner-Year FE	x	x	x	x	x	x
	Control Variables	x	x	x	x	x	x

**Note:** The dependent variable is the dummy variable whether a patent was granted. Fixed Effects are noted at the bottom. All models include the following control variables: assignee, small entity, family size, number of patent grants obtained previously by the applicant, number of independent claims, number of dependent claims, patent scope, and backward citations. Robust standard errors clustered at the examiner level are reported in parenthesis. Asterisks denote: \*\*\* $p < 0.01$ , \*\* $p < 0.05$ , \* $p < 0.1$ .

Table A.8: The Single Inventor Case: Using the Female Likelihood.

	(1)	(2)	(3)	(4)	(5)
<b>Panel A</b>	Granted Patent Application				
Inventor Female Likelihood (IL)	-0.040*** (0.003)	-0.039*** (0.003)	-0.042*** (0.004)	-0.032*** (0.005)	-0.031*** (0.005)
Examiner Female Likelihood (EL)		-0.015*** (0.004)			0.001 (0.003)
IL × EL		-0.003 (0.006)			-0.007 (0.006)
Examiner Experience			0.008*** (0.000)		0.004*** (0.000)
IL × Examiner Experience			0.000 (0.000)		0.001 (0.000)
Examiner Workload				0.058*** (0.001)	0.046*** (0.001)
IL × Examiner Workload				-0.003 (0.002)	-0.005** (0.002)
Observations	656480	656480	656480	656480	656480
Art unit-Year FE	x	x	x	x	x
Control Variables	x	x	x	x	x
<b>Panel B</b>	Granted Patent Application				
Inventor Female Likelihood	-0.033*** (0.002)	-0.034*** (0.003)	-0.031*** (0.004)	-0.026*** (0.005)	-0.027*** (0.005)
IL × Examiner Female Likelihood		0.003 (0.005)			0.002 (0.005)
IL × Examiner Experience			-0.000 (0.000)		0.000 (0.000)
IL × Examiner Workload				-0.003 (0.002)	-0.003 (0.002)
Observations	656480	656480	656480	656480	656480
Art unit-Year FE	x	x	x	x	x
Examiner-Year FE	x	x	x	x	x
Control Variables	x	x	x	x	x

**Note:** The dependent variable is the dummy variable whether a patent was granted. Fixed Effects are noted at the bottom. All models include the following control variables: assignee, small entity, family size, number of patent grants obtained previously by the applicant, number of independent claims, number of dependent claims, patent scope, and backward citations. Robust standard errors clustered at the examiner level are reported in parenthesis. Asterisks denote: \*\*\* $p < 0.01$ , \*\* $p < 0.05$ , \* $p < 0.1$ .

Table A.9: The Single Inventor Case: Different Cut-offs for the Gender Classification

	90%	80%	70%	60%	50%
<b>Panel A</b>	Granted Patent Application				
Female Inventor (FI)	-0.028*** (0.006)	-0.027*** (0.006)	-0.025*** (0.005)	-0.025*** (0.005)	-0.024*** (0.005)
Examiner Female	0.000 (0.003)	0.001 (0.003)	0.002 (0.003)	0.002 (0.003)	0.001 (0.003)
FI × Examiner Female	-0.006 (0.006)	-0.005 (0.006)	-0.007 (0.005)	-0.007 (0.005)	-0.009* (0.005)
Examiner Experience	0.004*** (0.000)	0.004*** (0.000)	0.004*** (0.000)	0.004*** (0.000)	0.004*** (0.000)
FI × Examiner Experience	0.001 (0.001)	0.001 (0.001)	0.001 (0.000)	0.001 (0.000)	0.000 (0.000)
Examiner Workload	0.046*** (0.002)	0.046*** (0.002)	0.046*** (0.002)	0.046*** (0.001)	0.046*** (0.001)
FI × Examiner Workload	-0.009*** (0.003)	-0.007*** (0.003)	-0.006*** (0.002)	-0.006** (0.002)	-0.005** (0.002)
Observations	568535	597040	623008	639648	656480
Art unit-Year FE	x	x	x	x	x
Control Variables	x	x	x	x	x
<b>Panel B</b>	Granted Patent Application				
Female Inventor (FI)	-0.024*** (0.006)	-0.025*** (0.006)	-0.023*** (0.005)	-0.022*** (0.005)	-0.021*** (0.005)
FI × Examiner Female	0.005 (0.006)	0.006 (0.005)	0.002 (0.005)	0.001 (0.005)	-0.002 (0.005)
FI × Examiner Experience	-0.000 (0.000)	-0.000 (0.000)	-0.000 (0.000)	0.000 (0.000)	0.000 (0.000)
FI × Examiner Workload	-0.005* (0.002)	-0.004 (0.002)	-0.003 (0.002)	-0.003 (0.002)	-0.003 (0.002)
Observations	568535	596327	622629	639463	656480
Art unit-Year FE	x	x	x	x	x
Examiner-Year FE	x	x	x	x	x
Control Variables	x	x	x	x	x

**Note:** The dependent variable is the dummy variable whether a patent was granted. Fixed Effects are noted at the bottom. All models include the following control variables: assignee, small entity application, family size, number of patent grants obtained previously by the applicant, number of independent claims, number of dependent claims, patent scope, and backward citations. Robust standard errors clustered at the examiner level are reported in parenthesis. Asterisks denote: \*\*\* $p < 0.01$ , \*\* $p < 0.05$ , \* $p < 0.1$ .

Table A.10: The Single Inventor Case: Logistic Regression

	(1)	(2)	(3)	(4)	(5)
	Granted Patent Application				
Female Inventor (FI)	-0.194*** (0.015)	-0.193*** (0.015)	-0.195*** (0.015)	-0.198*** (0.015)	-0.199*** (0.015)
Examiner Female		-0.075* (0.039)			0.000 (0.036)
FI × Examiner Female		0.045 (0.037)			0.034 (0.036)
Examiner Experience			0.037*** (0.002)		0.017*** (0.003)
FI × Examiner Experience			0.000 (0.002)		0.004 (0.003)
Examiner Workload				0.272*** (0.012)	0.213*** (0.015)
FI × Examiner Workload				-0.026* (0.016)	-0.039** (0.018)
Observations	568535	568535	568535	568535	568535
Control Variables	x	x	x	x	x

**Note:** The table shows the coefficients of a logistic regression. All dependent variables are demeaned at the art unit-year level. All models include the following control variables: assignee, small entity, family size, number of patent grants obtained previously by the applicant, number of independent claims, number of dependent claims, patent scope, and backward citations. Robust standard errors clustered at the examiner level are reported in parenthesis. Asterisks denote: \*\*\* $p < 0.01$ , \*\* $p < 0.05$ , \* $p < 0.1$ .

Table A.11: The Single Inventor Case: Alternative Workload Measure

	(1)	(2)	(3)	(4)	(5)
<b>Panel A</b>					
	Granted Patent Application				
Female Inventor (FI)	-0.043*** (0.003)	-0.042*** (0.003)	-0.042*** (0.005)	-0.032*** (0.005)	-0.032*** (0.006)
Examiner Female		-0.016*** (0.004)			-0.001 (0.003)
FI × Female Examiner		-0.001 (0.007)			-0.005 (0.006)
Examiner Experience			0.008*** (0.000)		0.004*** (0.000)
FI × Examiner Experience			-0.000 (0.000)		0.001 (0.001)
Examiner Workload <sup>R</sup>				0.065*** (0.001)	0.050*** (0.002)
FI × Examiner Workload <sup>R</sup>				-0.006** (0.003)	-0.008** (0.003)
Observations	568535	568535	568535	568535	568535
Art unit-Year FE	x	x	x	x	x
Control Variables	x	x	x	x	x
<b>Panel B</b>					
	Granted Patent Application				
Female Inventor (FI)	-0.036*** (0.003)	-0.038*** (0.003)	-0.029*** (0.004)	-0.026*** (0.005)	-0.027*** (0.006)
FI × Female Examiner		0.006 (0.006)			0.005 (0.006)
FI × Examiner Experience			-0.001* (0.000)		-0.000 (0.000)
FI × Examiner Workload <sup>R</sup>				-0.005** (0.002)	-0.004 (0.003)
Observations	568535	568535	568535	568535	568535
Art unit-Year FE	x	x	x	x	x
Examiner-Year FE	x	x	x	x	x
Control Variables	x	x	x	x	x

**Note:** The dependent variable is the dummy variable whether a patent was granted. *ExaminerWorkload<sup>R</sup>* denotes the alternative workload measure that only includes cases after the docketing date. Fixed Effects are noted at the bottom. All models include the following control variables: assignee, small entity, family size, number of patent grants obtained previously by the applicant, number of independent claims, number of dependent claims, patent scope, and backward citations. Robust standard errors clustered at the examiner level are reported in parenthesis. Asterisks denote: \*\*\* $p < 0.01$ , \*\* $p < 0.05$ , \* $p < 0.1$ .

Table A.12: Patent Application Characteristics: Single inventors versus Teams

	(1) Single	(2) Teams
Granted Application	0.601 (0.490)	0.665 (0.472)
Assignee	0.651 (0.477)	0.748 (0.434)
Small Entity	0.381 (0.486)	0.215 (0.411)
Family Size	3.541 (4.300)	4.694 (10.89)
Independent Claims	2.853 (2.291)	3.091 (2.724)
Dependent Claims	15.69 (12.47)	18.61 (25.16)
Claims Ratio	6.806 (5.265)	7.508 (5.703)
Patent Scope	1.711 (1.028)	1.855 (1.137)
Backward Citations	11.60 (15.39)	13.35 (18.51)
Nr of Previous Apps.	13.63 (36.19)	12.73 (30.04)
Nr of Previous Grants	10.82 (29.86)	10.04 (23.37)
Observations	568535	573148

*Notes:* Each observation is a patent application. The number of previous applications and grants are calculated as averages across team members.

Table A.13: The team case: First Action Allowance Decision

	(1)	(2)	(3)	(4)	(5)
<b>Panel A</b>					
	First action allowance				
Female Share (FS)	-0.009*** (0.001)	-0.009*** (0.002)	0.007*** (0.002)	0.012*** (0.002)	0.015*** (0.003)
Examiner Female		-0.019*** (0.003)			-0.010*** (0.002)
FS × Examiner Female		0.003 (0.003)			-0.002 (0.003)
Examiner Experience			0.005*** (0.000)		0.004*** (0.000)
FS × Examiner Experience			-0.002*** (0.000)		-0.001*** (0.000)
Examiner Workload				0.026*** (0.001)	0.013*** (0.001)
FS × Examiner Workload				-0.009*** (0.001)	-0.005*** (0.001)
Number of inventors	-0.002*** (0.000)	-0.002*** (0.000)	-0.002*** (0.000)	-0.003*** (0.000)	-0.003*** (0.000)
Observations	1141678	1141678	1141678	1141678	1141678
Art unit-Year FE	x	x	x	x	x
Examiner FE	-	-	-	-	-
Control Variables	x	x	x	x	x
<b>Panel B</b>					
	First action allowance				
Female Share (FS)	-0.038*** (0.002)	-0.038*** (0.003)	-0.036*** (0.004)	-0.028*** (0.004)	-0.028*** (0.005)
FS × Examiner Female		-0.001 (0.004)			-0.001 (0.004)
FS × Examiner Experience			-0.000 (0.000)		0.000 (0.000)
FS × Examiner Workload				-0.004** (0.002)	-0.005*** (0.002)
Number of inventors	0.007*** (0.000)	0.007*** (0.000)	0.007*** (0.000)	0.007*** (0.000)	0.007*** (0.000)
Observations	1141678	1141678	1141678	1141678	1141678
Art unit-Year FE	x	x	x	x	x
Examiner-Year FE	x	x	x	x	x
Control Variables	x	x	x	x	x

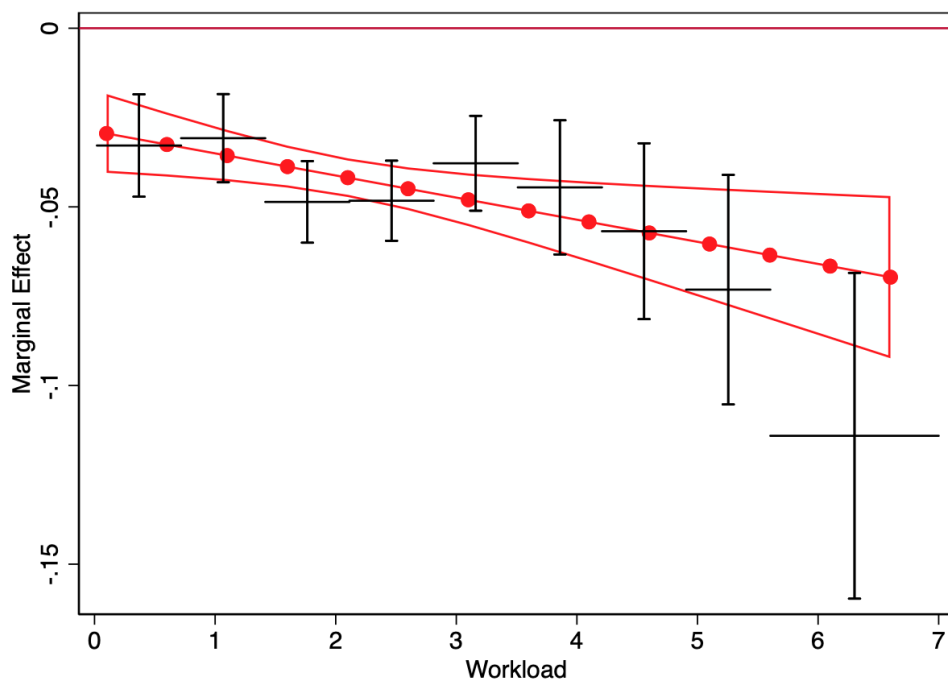
**Note:** The dependent variable is the dummy variable whether a patent was granted by a first action on the merits, i.e., it did not receive a non-final rejection. Fixed Effects are noted at the bottom. All models include the following control variables: assignee, small entity, family size, the average number of patent grants obtained previously by the applicant, number of independent claims, number of dependent claims, patent scope, and backward citations. Robust standard errors clustered at the examiner level are reported in parenthesis. Asterisks denote: \*\*\* $p < 0.01$ , \*\* $p < 0.05$ , \* $p < 0.1$ .

Table A.14: The team case: Seniority - Including the examiners' grade scales in the analysis

	(1)	(2)	(3)	(4)	(5)	(6)
	Granted Patent Application					
Female Share (FS)	-0.027*** (0.009)	-0.015* (0.008)	-0.040*** (0.010)	-0.027*** (0.010)	-0.019 (0.012)	-0.005 (0.012)
Examiner Female					-0.008** (0.004)	
FS × Examiner Female	-0.010 (0.007)	-0.001 (0.006)			-0.010 (0.007)	-0.001 (0.006)
Examiner Experience					0.002*** (0.000)	
FS × Examiner Experience	0.001 (0.001)	0.000 (0.000)			-0.000 (0.001)	-0.001* (0.001)
Examiner Workload					0.038*** (0.003)	
FS × Examiner Workload	-0.010*** (0.003)	-0.008*** (0.003)			-0.011*** (0.004)	-0.011*** (0.003)
GS-9			0.028*** (0.004)		0.010** (0.004)	
GS-11			0.051*** (0.004)		0.017*** (0.004)	
GS-12			0.074*** (0.004)		0.026*** (0.005)	
GS-13			0.108*** (0.004)		0.043*** (0.006)	
GS-14			0.154*** (0.004)		0.056*** (0.007)	
GS-15			0.070*** (0.015)		-0.010 (0.014)	
FS × GS-9			-0.017 (0.013)	-0.022* (0.013)	-0.014 (0.013)	-0.018 (0.013)
FS × GS-11			0.002 (0.013)	-0.001 (0.013)	0.009 (0.013)	0.007 (0.013)
FS × GS-12			-0.007 (0.013)	-0.012 (0.012)	0.003 (0.013)	0.001 (0.013)
FS × GS-13			-0.020 (0.012)	-0.012 (0.012)	-0.006 (0.014)	0.006 (0.013)
FS × GS-14			-0.007 (0.011)	-0.013 (0.011)	0.017 (0.015)	0.020 (0.014)
FS × GS-15			0.032 (0.021)	0.019 (0.017)	0.047** (0.024)	0.047** (0.020)
Number of inventors	0.008*** (0.001)	0.007*** (0.001)	0.009*** (0.001)	0.007*** (0.001)	0.009*** (0.001)	0.007*** (0.001)
Observations	699586	699586	699586	699586	699586	699586
Art unit-Year FE	x	x	x	x	x	x
Examiner-Year FE	-	x	-	x	-	x
Control Variables	x	x	x	x	x	x

**Note:** The dependent variable is the dummy variable whether a patent was granted. Fixed Effects are noted at the bottom. All models include the following control variables: assignee, small entity, family size, the average number of patent grants obtained previously by the applicant, number of independent claims, number of dependent claims, patent scope, and backward citations. Robust standard errors clustered at the examiner level are reported in parenthesis. Asterisks denote: \*\*\* $p < 0.01$ , \*\* $p < 0.05$ , \* $p < 0.1$ .

Figure A.1: The Marginal Effect of Reviewer Workload on Female Applicants



**Note:** This figure presents panel (a) of Figure 4a in red. The marginal effects show the effect of the workload on female applicants as compared to male applicants. The black horizontal lines represent the marginal effect for different workload spans encompassed by the ends of the horizontal lines. The workload has been divided into ten equal lengths within the range of the workload distribution. The highest two intervals are represented by one coefficient, as the right tail of the distribution is sparsely populated. The vertical lines present the 95% confidence interval for each estimated effect. The horizontal axis represents the workload of the examiner divided by 100.