Shopping for Information? Diversification and the Network of Industries

Online Appendix

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The online appendix presents additional robustness checks of the results presented in the main paper. Table OA.1 shows detailed calculations of the expected number of information bits received by industries and conglomerates, depicted in figure 1. Table OA.2 shows the summary statistics of the variables used in the online appendix. Tables OA.3 and OA.4 show the results when we consider only segments with a minimum relative size threshold of 5% and 10%. In table OA.5 we use the maximum of the flows between two industries, instead of the average. Table OA.6 uses industry-to-commodity flows, rather than the average of industry-to-commodity and commodity-to-industry flows. The network is disconnected when using only commodity-to-industry flows, therefore we can not replicate our analysis using this approach to flow construction. Table OA.7 uses flows that are scaled by the total industry flow. In Table OA.8 we use the 2002 network instead of the 1997 network. Table OA.9 shows the results using equal-weighted excess centrality, where we weight equally each division's centrality in the benchmark portfolio. The industry network in Table OA.10 excludes the broad and generic industries of retail and wholesale trade. In table OA.11 we use an measure of excess value adjusted for goodwill, in light of the results presented in Custódio (2013). In table OA.12 we only include conglomerates whose total assets stated in Compustat Segments differ at most by 5% from the total assets stated in Compustat Fundamentals. In table OA.13 we only include industries with at least 5 specialized firms. Table OA.14 uses the same financial controls as in Berger and Ofek

(1995), without the industry adjustment recommended by Gormley and Matsa (2013). Finally, table OA.15 shows the innovation results using alternative specifications.

Table OA.1: The table presents the probability of retrieving information bits as a function of the position in the network depicted in figure 1. Panel A shows the probability that firms in sectors 1 to 6 can retrieve the information bit produced by the industries in row 1 to 6. The last row of Panel A summarizes the total amount of information bits that each sector can retrieve. Panel B shows the probability that conglomerates $C_{6,5}$, $C_{6,3}$, and $C_{6,1}$ can retrieve bits 1 to 6. The assets of the conglomerates are equally divided among the two sectors. The last two rows of panel B present the total bits retrieved by each conglomerate, and the excess information, defined as the difference between the bits of the conglomerates and a comparable portfolio of specialized firms in the same industries.

Panel A: Industry Information

	Probability of retrieval by firm in sector...					
Bit	1	2	3	4	5	6
1	1	δ^2	δ	δ^2	δ^2	δ^3
2	δ^2	1	δ	δ^2	δ^2	δ^3
3	δ	δ	1	δ	δ	δ^2
4	δ^2	δ^2	δ	1	δ^2	δ^3
5	δ^2	δ^2	δ	δ^2	1	δ
6	δ^3	δ^3	δ^2	δ^3	δ	1
Total	$1+\delta$ $+3\delta^2+\delta^3$	$1+\delta$ $+3\delta^2+\delta^3$	$1+4\delta$ $+\delta^2$	$1+\delta$ $+3\delta^2+\delta^3$	$1+2\delta$ $+3\delta^2$	$1+\delta$ $+\delta^2+3\delta^3$

Panel B: Conglomerate Information

	Probability of retrieval by conglomerate...		
Bit	$C_{6,5}$	$C_{6,3}$	$C_{6,1}$
1	δ^2	δ	1
2	δ^2	δ	δ^2
3	δ	1	δ
4	δ^2	δ	δ^2
5	1	δ	δ
6	1	1	1
Total	$2+\delta+3\delta^2$	$2+4\delta$	$2+2\delta+2\delta^2$
Δ vs. specialized	$1-0.5\delta$ $+\delta^2-1.5\delta^3$	$1+1.5\delta$ $-\delta^2-1.5\delta^3$	$1+\delta$ $-2\delta^3$

Table OA.2: Summary Statistics. The table presents means, standard deviations, minimum and maximum values, and the number of observations for each variable. All variables are defined in detail in the appendix.

Variable	Mean	Std. Dev.	Min.	Max.	N. Obs.
Equally-Weighted Excess Centrality	0.145	0.12	0.004	0.929	22,425
Excess Centrality (2002 I-O- Network)	0.155	0.196	0.003	2.262	24,490
Excess Centrality (Excl. Retail and Wholesale)	0.149	0.169	0.002	2.049	20,215
Excess Centrality (Using Industry-to-Comm.)	0.137	0.177	0.002	3.477	22,425
Excess Centrality (Using Max of Flows)	0.15	0.169	0.002	2.023	22,425
Excess Value (Using 5-Company Cutoff)	-0.326	0.627	-2.479	6.816	22,425
Excess Value (Using Goodwill Adjustment)	-0.271	0.671	-3.063	6.758	22,415

Table OA.3: Excess Value and Excess Centrality: Min. 5% Segment Size. The dependent variable is Excess Value, defined as the log-difference between the Tobin's Q of a conglomerate and the Tobin's Q of a similar portfolio of specialized firms. Only segments larger than 5% of a conglomerate's total assets are considered in the analysis. The table presents OLS regression coefficients, beta coefficients and robust t-statistics clustered at the conglomerate level. Excess Centrality is defined as the log-difference between the closeness centrality of a conglomerate and the one of a similar portfolio of specialized firms. All network variables use the 1997 BEA Input-Output network. The independent variables are lagged one year. All variables are defined in detail in the appendix. A constant is included but not reported in the table. Significance at 10%, 5%, and 1%, is indicated by *, **, and ***.

	(1)	(2)	(3)	(4)
Excess Centrality	0.389***	0.391***	0.372***	0.274***
	0.098	0.099	0.094	0.069
	(5.41)	(5.18)	(4.90)	(3.01)
N. of Segments		-0.030**	-0.037***	-0.046***
		-0.039	-0.048	-0.060
		(-2.48)	(-2.92)	(-3.93)
Related Segments		0.050**	0.047**	0.022
		0.049	0.047	0.022
		(2.50)	(2.43)	(1.08)
Vert. Relatedness		-0.000	-0.000	-0.000
		-0.006	-0.008	-0.004
		(-0.53)	(-0.65)	(-0.09)
Excess Assets			0.011*	-0.029***
			0.039	-0.102
			(1.95)	(-2.76)
Excess EBIT/Sales			-0.006***	-0.001***
			-0.097	-0.025
			(-9.19)	(-3.28)
Excess Capex/Sales			0.001	0.003***
			0.009	0.022
			(1.63)	(6.38)
Year FE	Yes	Yes	Yes	Yes
Firm FE	No	No	No	Yes
R^2	0.024	0.026	0.038	0.027
N. of Observations	19,935	19,935	19,125	19,125

Table OA.4: Excess Value and Excess Centrality: Min. 10% Segment Size. The dependent variable is Excess Value, defined as the log-difference between the Tobin's Q of a conglomerate and the Tobin's Q of a similar portfolio of specialized firms. Only segments larger than 10% of a conglomerate's total assets are considered in the analysis. The table presents OLS regression coefficients, beta coefficients and robust t-statistics clustered at the conglomerate level. Excess Centrality is defined as the log-difference between the closeness centrality of a conglomerate and the one of a similar portfolio of specialized firms. All network variables use the 1997 BEA Input-Output network. The independent variables are lagged one year. All variables are defined in detail in the appendix. A constant is included but not reported in the table. Significance at 10%, 5%, and 1%, is indicated by *, **, and ***.

	(1)	(2)	(3)	(4)
Excess Centrality	0.392***	0.392***	0.380***	0.206**
	0.095	0.095	0.093	0.050
	(4.78)	(4.55)	(4.39)	(2.12)
N. of Segments		-0.014	-0.024	-0.041***
		-0.014	-0.025	-0.043
		(-0.87)	(-1.46)	(-2.96)
Related Segments		0.055**	0.050**	0.003
		0.049	0.045	0.002
		(2.33)	(2.22)	(0.11)
Vert. Relatedness		0.000	0.000	-0.000
		0.009	0.008	-0.032
		(0.77)	(0.63)	(-0.57)
Excess Assets			0.012**	-0.020*
			0.045	-0.072
			(2.04)	(-1.74)
Excess EBIT/Sales			-0.007***	-0.002***
			-0.103	-0.027
			(-8.68)	(-3.58)
Excess Capex/Sales			-0.000	0.003***
			-0.000	0.013
			(-0.05)	(2.83)
Year FE	Yes	Yes	Yes	Yes
Firm FE	No	No	No	Yes
R^2	0.025	0.027	0.039	0.024
N. of Observations	17,182	17,182	16,470	16,470

Table OA.5: Excess Value and Excess Centrality: Max of Industry Flows. The dependent variable is Excess Value, defined as the log-difference between the Tobin's Q of a conglomerate and the Tobin's Q of a similar portfolio of specialized firms. The table presents OLS regression coefficients, beta coefficients and robust t-statistics clustered at the conglomerate level. Excess Centrality is defined as the log-difference between the closeness centrality of a conglomerate and the one of a similar portfolio of specialized firms. All network variables use the 1997 BEA Input-Output network using the maximum of commodity flows between two industries. The independent variables are lagged one year. All variables are defined in detail in the appendix. A constant is included but not reported in the table. Significance at 10%, 5%, and 1%, is indicated by *, **, and ***.

	(1)	(2)	(3)	(4)
Ex. Centrality (Max. of Industry Flows)	0.379***	0.387***	0.361***	0.277***
	0.098	0.100	0.093	0.071
	(5.80)	(5.67)	(5.29)	(2.63)
N. of Segments		-0.031***	-0.037***	-0.039***
		-0.045	-0.055	-0.058
		(-2.98)	(-3.42)	(-3.56)
Related Segments		0.038**	0.031*	0.004
		0.038	0.031	0.004
		(2.09)	(1.75)	(0.22)
Vert. Relatedness (Max. of Industry Flows)		-0.000	-0.000	0.000
		-0.008	-0.012	0.006
		(-0.74)	(-1.06)	(0.17)
Excess Assets			0.015***	-0.016
			0.054	-0.054
			(2.70)	(-1.38)
Excess EBIT/Sales			-0.005***	-0.001***
			-0.089	-0.026
			(-8.94)	(-2.67)
Excess Capex/Sales			0.001**	0.003***
			0.013	0.029
			(2.57)	(8.66)
Year FE	Yes	Yes	Yes	Yes
Firm FE	No	No	No	Yes
R^2	0.023	0.025	0.036	0.026
N. of Observations	22,425	22,425	21,516	21,516

Table OA.6: Excess Value and Excess Centrality: Industry-to-Commodity Flows The dependent variable is Excess Value, defined as the log-difference between the Tobin's Q of a conglomerate and the Tobin's Q of a similar portfolio of specialized firms. The table presents OLS regression coefficients, beta coefficients and robust t-statistics clustered at the conglomerate level. Excess Centrality is defined as the log-difference between the closeness centrality of a conglomerate and the one of a similar portfolio of specialized firms. All network variables use the 1997 BEA Input-Output industry-to-commodity network. The independent variables are lagged one year. All variables are defined in detail in the appendix. A constant is included but not reported in the table. Significance at 10%, 5%, and 1%, is indicated by *, **, and ***.

	(1)	(2)	(3)	(4)
Ex. Centrality (Industry-to-Comm.)	0.465***	0.464***	0.444***	0.340***
	0.123	0.123	0.118	0.091
	(6.30)	(6.11)	(5.78)	(3.41)
N. of Segments		-0.031***	-0.037***	-0.038***
		-0.045	-0.055	-0.056
		(-3.09)	(-3.52)	(-3.57)
Related Segments		0.038**	0.032*	0.003
		0.037	0.032	0.003
		(2.12)	(1.83)	(0.16)
Vert. Relatedness (Industry-to-Comm.)		-0.000	-0.000	-0.000
		-0.020	-0.019	-0.022
		(-1.52)	(-1.44)	(-0.62)
Excess Assets			0.014**	-0.016
			0.050	-0.055
			(2.55)	(-1.44)
Excess EBIT/Sales			-0.005***	-0.001***
			-0.087	-0.026
			(-8.84)	(-2.64)
Excess Capex/Sales			0.001***	0.003***
			0.014	0.029
			(2.76)	(8.57)
Year FE	Yes	Yes	Yes	Yes
Firm FE	No	No	No	Yes
R^2	0.029	0.031	0.042	0.027
N. of Observations	22,425	22,425	21,516	21,516

Table OA.7: Excess Value and Excess Centrality: Normalized Industry Flows. The dependent variable is Excess Value, defined as the log-difference between the Tobin's Q of a conglomerate and the Tobin's Q of a similar portfolio of specialized firms. The table presents OLS regression coefficients, beta coefficients and robust t-statistics clustered at the conglomerate level. Excess Centrality is defined as the log-difference between the closeness centrality of a conglomerate and the one of a similar portfolio of specialized firms. All network variables use the 1997 BEA Input-Output network with normalized industry flows. The independent variables are lagged one year. All variables are defined in detail in the appendix. A constant is included but not reported in the table. Significance at 10%, 5%, and 1%, is indicated by *, **, and ***.

	(1)	(2)	(3)	(4)
Excess Centrality	0.206**	0.345***	0.311***	0.432**
	0.034	0.057	0.052	0.072
	(2.32)	(3.28)	(2.96)	(2.54)
N. of Segments		-0.041***	-0.046***	-0.054***
		-0.060	-0.068	-0.079
		(-3.45)	(-3.75)	(-3.82)
Related Segments		0.051***	0.043**	0.010
		0.050	0.042	0.010
		(2.70)	(2.32)	(0.51)
Vert. Relatedness		0.000	0.000	0.001**
		0.013	0.007	0.051
		(1.14)	(0.62)	(2.12)
Excess Assets			0.017***	-0.015
			0.057	-0.052
			(2.86)	(-1.35)
Excess EBIT/Sales			-0.005***	-0.001***
			-0.091	-0.026
			(-9.15)	(-2.71)
Excess Capex/Sales			0.002***	0.003***
			0.015	0.029
			(3.01)	(8.66)
Year FE	Yes	Yes	Yes	Yes
Firm FE	No	No	No	Yes
R^2	0.015	0.017	0.029	0.026
N. of Observations	22,425	22,425	21,516	21,516

Table OA.8: Excess Value and Excess Centrality: 2002 I-O Network The dependent variable is Excess Value, defined as the log-difference between the Tobin's Q of a conglomerate and the Tobin's Q of a similar portfolio of specialized firms. The table presents OLS regression coefficients, beta coefficients and robust t-statistics clustered at the conglomerate level. Excess Centrality is defined as the log-difference between the closeness centrality of a conglomerate and the one of a similar portfolio of specialized firms. All network variables use the 2002 BEA Input-Output network. The independent variables are lagged one year. All variables are defined in detail in the appendix. A constant is included but not reported in the table. Significance at 10%, 5%, and 1%, is indicated by *, **, and ***.

	(1)	(2)	(3)	(4)
Excess Centrality (2002)	0.296***	0.307***	0.280***	0.193**
	0.092	0.095	0.087	0.060
	(5.34)	(5.30)	(4.83)	(2.07)
N. of Segments		-0.026***	-0.031***	-0.034***
		-0.042	-0.050	-0.054
		(-3.06)	(-3.45)	(-3.51)
Related Segments		0.016	0.014	-0.011
		0.016	0.014	-0.011
		(1.02)	(0.86)	(-0.60)
Vert. Relatedness		-0.000	-0.000	0.000
		-0.003	-0.007	0.004
		(-0.36)	(-0.72)	(0.11)
Excess Assets			0.012**	-0.016
			0.043	-0.060
			(2.18)	(-1.58)
Excess EBIT/Sales			-0.004***	-0.001***
			-0.084	-0.028
			(-8.03)	(-2.79)
Excess Capex/Sales			0.001***	0.003***
			0.013	0.030
			(2.61)	(8.53)
Year FE	Yes	Yes	Yes	Yes
Firm FE	No	No	No	Yes
R^2	0.023	0.024	0.033	0.027
N. of Observations	24,490	24,490	23,376	23,376

Table OA.9: Excess Value and Equally-Weighted Excess Centrality. The dependent variable is Excess Value, defined as the log-difference between the Tobin's Q of a conglomerate and the Tobin's Q of a similar portfolio of specialized firms. The table presents OLS regression coefficients, beta coefficients and robust t-statistics clustered at the conglomerate level. Excess Centrality is defined as the log-difference between the closeness centrality of a conglomerate and the one of a similar equally-weighted portfolio of specialized firms. All network variables use the 1997 BEA Input-Output network. The independent variables are lagged one year. All variables are defined in detail in the appendix. A constant is included but not reported in the table. Significance at 10%, 5%, and 1%, is indicated by *, **, and ***.

	(1)	(2)	(3)	(4)
Equally-Weighted Excess Centrality	0.438***	0.454***	0.430***	0.182
	0.080	0.083	0.079	0.033
	(5.39)	(5.15)	(4.88)	(1.59)
N. of Segments		-0.032***	-0.039***	-0.035***
		-0.047	-0.057	-0.052
		(-3.05)	(-3.52)	(-3.21)
Related Segments		0.034*	0.027	0.002
		0.034	0.027	0.002
		(1.84)	(1.50)	(0.08)
Vert. Relatedness		-0.000	-0.000	0.000
		-0.010	-0.013	0.002
		(-0.91)	(-1.18)	(0.05)
Excess Assets			0.016***	-0.014
			0.055	-0.048
			(2.74)	(-1.23)
Excess EBIT/Sales			-0.005***	-0.001***
			-0.090	-0.027
			(-9.16)	(-2.78)
Excess Capex/Sales			0.001***	0.003***
			0.013	0.029
			(2.68)	(8.75)
Year FE	Yes	Yes	Yes	Yes
Firm FE	No	No	No	Yes
R^2	0.020	0.022	0.033	0.024
N. of Observations	22,425	22,425	21,516	21,516

Table OA.10: Excess Value and Excess Centrality: Excluding Retail and Wholesale Industries. The dependent variable is Excess Value, defined as the log-difference between the Tobin's Q of a conglomerate and the Tobin's Q of a similar portfolio of specialized firms. The table presents OLS regression coefficients, beta coefficients and robust t-statistics clustered at the conglomerate level. Excess Centrality is defined as the log-difference between the closeness centrality of a conglomerate and the one of a similar portfolio of specialized firms. All network variables use the 1997 BEA Input-Output network. The network does not include the retail and wholesale industries. The independent variables are lagged one year. All variables are defined in detail in the appendix. A constant is included but not reported in the table. Significance at 10%, 5%, and 1%, is indicated by *, **, and ***.

	(1)	(2)	(3)	(4)
Ex. Centrality (Excl. Retail-Wholesale)	0.335***	0.344***	0.315***	0.236**
	0.086	0.088	0.081	0.061
	(4.86)	(4.84)	(4.47)	(2.19)
N. of Segments		-0.030***	-0.037***	-0.033***
		-0.044	-0.056	-0.050
		(-2.84)	(-3.39)	(-2.99)
Related Segments		0.036*	0.028	-0.006
		0.037	0.029	-0.006
		(1.95)	(1.54)	(-0.27)
Vert. Relatedness (Excl. Retail-Wholesale)		-0.000	-0.000	0.000*
		-0.001	-0.006	0.040
		(-0.10)	(-0.44)	(1.79)
Excess Assets			0.018***	-0.006
			0.060	-0.021
			(2.90)	(-0.53)
Excess EBIT/Sales			-0.005***	-0.001***
			-0.092	-0.027
			(-8.85)	(-2.62)
Excess Capex/Sales			0.002***	0.003***
			0.015	0.031
			(2.92)	(8.91)
Year FE	Yes	Yes	Yes	Yes
Firm FE	No	No	No	Yes
R^2	0.021	0.023	0.035	0.024
N. of Observations	20,212	20,212	19,356	19,356

Table OA.11: Excess Value and Excess Centrality: Goodwill Adjustment The dependent variable is Excess Value, defined as the log-difference between the Tobin's Q of a conglomerate and the Tobin's Q of a similar portfolio of specialized firms. Tobin's Q is adjusted for differences in goodwill, as proposed in Custódio (2013). The table presents OLS regression coefficients, beta coefficients and robust t-statistics clustered at the conglomerate level. Excess Centrality is defined as the log-difference between the closeness centrality of a conglomerate and the one of a similar portfolio of specialized firms. All network variables use the 1997 BEA Input-Output network. The independent variables are lagged one year. All variables are defined in detail in the appendix. A constant is included but not reported in the table. Significance at 10%, 5%, and 1%, is indicated by *, **, and ***.

	(1)	(2)	(3)	(4)
Excess Centrality	0.476***	0.456***	0.423***	0.265**
	0.120	0.115	0.107	0.067
	(6.83)	(6.29)	(5.93)	(2.55)
N. of Segments		-0.032***	-0.043***	-0.035***
		-0.046	-0.063	-0.051
		(-3.06)	(-4.01)	(-3.13)
Related Segments		0.046**	0.033*	0.006
		0.045	0.033	0.006
		(2.51)	(1.86)	(0.33)
Vert. Relatedness		-0.000***	-0.000***	0.000
		-0.039	-0.047	0.022
		(-3.14)	(-3.59)	(0.48)
Excess Assets			0.026***	-0.005
			0.090	-0.016
			(4.60)	(-0.41)
Excess EBIT/Sales			-0.005***	-0.001**
			-0.080	-0.020
			(-8.22)	(-2.46)
Excess Capex/Sales			0.002***	0.003***
			0.017	0.030
			(3.45)	(10.12)
Year FE	Yes	Yes	Yes	Yes
Firm FE	No	No	No	Yes
R^2	0.024	0.028	0.043	0.020
N. of Observations	22,415	22,415	21,507	21,507

Table OA.12: Excess Value and Excess Centrality: Assets Match. The dependent variable is Excess Value, defined as the log-difference between the Tobin's Q of a conglomerate and the Tobin's Q of a similar portfolio of specialized firms. The table presents OLS regression coefficients, beta coefficients and robust t-statistics clustered at the conglomerate level. Excess Centrality is defined as the log-difference between the closeness centrality of a conglomerate and the one of a similar portfolio of specialized firms. All network variables use the 1997 BEA Input-Output network. The data includes only conglomerates whose total assets stated in Compustat Segments differ at most by 5% from the total assets stated in Compustat Fundamentals. The independent variables are lagged one year. All variables are defined in detail in the appendix. A constant is included but not reported in the table. Significance at 10%, 5%, and 1%, is indicated by *, **, and ***.

	(1)	(2)	(3)	(4)
Excess Centrality	0.387***	0.376***	0.352***	0.311**
	0.097	0.094	0.088	0.078
	(4.99)	(4.66)	(4.29)	(2.58)
N. of Segments		-0.017	-0.021	-0.036**
		-0.023	-0.030	-0.050
		(-1.34)	(-1.60)	(-2.50)
Related Segments		0.027	0.024	0.001
		0.025	0.022	0.001
		(1.19)	(1.07)	(0.05)
Vert. Relatedness		-0.000*	-0.000*	0.000
		-0.019	-0.020	0.003
		(-1.72)	(-1.80)	(0.13)
Excess Assets			0.010	-0.016
			0.033	-0.055
			(1.54)	(-1.17)
Excess EBIT/Sales			-0.005***	-0.001*
			-0.088	-0.023
			(-7.98)	(-1.75)
Excess Capex/Sales			0.002***	0.003***
			0.019	0.034
			(4.07)	(6.05)
Year FE	Yes	Yes	Yes	Yes
Firm FE	No	No	No	Yes
R^2	0.021	0.022	0.031	0.026
N. of Observations	15,494	15,494	14,819	14,819

Table OA.13: Excess Value and Excess Centrality: Min. 5 Specialized Firms per Industry. The dependent variable is Excess Value, defined as the log-difference between the Tobin's Q of a conglomerate and the Tobin's Q of a similar portfolio of specialized firms. We only include industries with least 5 specialized firm. The table presents OLS regression coefficients, beta coefficients and robust t-statistics clustered at the conglomerate level. Excess Centrality is defined as the log-difference between the closeness centrality of a conglomerate and the one of a similar portfolio of specialized firms. All network variables use the 1997 BEA Input-Output network. The independent variables are lagged one year. All variables are defined in detail in the appendix. A constant is included but not reported in the table. Significance at 10%, 5%, and 1%, is indicated by *, **, and ***.

	(1)	(2)	(3)	(4)
Excess Centrality	0.379***	0.392***	0.370***	0.272***
	0.102	0.106	0.100	0.074
	(5.99)	(5.93)	(5.56)	(2.91)
N. of Segments		-0.025**	-0.030***	-0.037***
		-0.039	-0.046	-0.057
		(-2.57)	(-2.93)	(-3.37)
Related Segments		0.016	0.010	0.002
		0.017	0.010	0.002
		(0.97)	(0.59)	(0.11)
Vert. Relatedness		-0.000	-0.000	-0.000
		-0.005	-0.009	-0.001
		(-0.49)	(-0.78)	(-0.02)
Excess Assets			0.013**	-0.007
			0.048	-0.027
			(2.37)	(-0.65)
Excess EBIT/Sales			-0.004***	-0.001***
			-0.081	-0.025
			(-8.29)	(-3.10)
Excess Capex/Sales			0.001*	0.003***
			0.010	0.029
			(1.81)	(10.15)
Year FE	Yes	Yes	Yes	Yes
Firm FE	No	No	No	Yes
R^2	0.029	0.030	0.039	0.035
N. of Observations	22,425	22,425	21,516	21,516

Table OA.14: Excess Value and Excess Centrality: Alternative Specification. The dependent variable is Excess Value, defined as the log-difference between the Tobin's Q of a conglomerate and the Tobin's Q of a similar portfolio of specialized firms. The table presents OLS regression coefficients, beta coefficients and robust t-statistics clustered at the conglomerate level. Excess Centrality is defined as the log-difference between the closeness centrality of a conglomerate and the one of a similar portfolio of specialized firms. The first 2 columns use the 1997 BEA Input-Output network, and the last 3 columns use the annual 1998-2011 BEA Input-Output networks. The independent variables are lagged one year. All variables are defined in detail in the appendix. A constant is included but not reported. Significance at 10%, 5%, and 1%, is indicated by *, **, and ***.

	1997 Network		Time-Varying Network		
	(1)	(2)	(3)	(4)	(5)
Excess Centrality	0.397***	0.271***			
	0.102	0.070			
	(5.60)	(2.63)			
Equally-Weighted Exc. Centrality			0.512***	0.385***	0.468**
			0.113	0.085	0.103
			(4.73)	(3.13)	(2.38)
N. of Segments	-0.025**	-0.037***	-0.033**	-0.031*	
	-0.036	-0.054	-0.049	-0.045	
	(-2.30)	(-3.32)	(-2.18)	(-1.94)	
Related Segments	0.042**	0.002	-0.042***	-0.017	
	0.042	0.002	-0.058	-0.024	
	(2.28)	(0.11)	(-2.63)	(-0.83)	
Vert. Relatedness	-0.000	0.000	-0.001	0.001	0.001
	-0.003	0.007	-0.015	0.008	0.010
	(-0.31)	(0.17)	(-0.91)	(0.43)	(0.38)
Assets	-0.000***	-0.000***	-0.000**	-0.000***	-0.000***
	-0.041	-0.097	-0.034	-0.127	-0.130
	(-3.78)	(-4.96)	(-2.42)	(-4.75)	(-2.67)
EBIT/Sales	-0.004*	-0.002	-0.008	-0.001	0.000
	-0.024	-0.014	-0.050	-0.006	0.001
	(-1.90)	(-1.39)	(-1.63)	(-0.50)	(0.14)
Capex/Sales	0.001	-0.003	-0.001	-0.002	-0.006
	0.001	-0.003	-0.001	-0.004	-0.005
	(0.16)	(-0.30)	(-0.13)	(-0.88)	(-0.22)
Year FE	Yes	Yes	Yes	Yes	Yes
Firm FE	No	Yes	No	Yes	No
Firm-Cohort FE	No	No	No	No	Yes
R^2	0.028	0.025	0.025	0.024	0.025
N. of Observations	21,553	21,553	11,375	11,375	9,907

Table OA.15: Excess Innovation and Excess Centrality in Conglomerates: Robustness Checks. In the odd- (even-) numbered specifications, the dependent variable is Excess Patents (Citations), defined as the log-difference between the number of patents (citations) produced by a conglomerate and the number of patents (citations) produced by a similar portfolio of specialized firms, scaled by total assets. The table presents OLS regression coefficients, beta coefficients and robust t-statistics clustered at the conglomerate level. Excess Centrality is defined as the log-difference between the closeness centrality of a conglomerate and the one of a similar portfolio of specialized firms. All network variables use the 1997 BEA Input-Output network. The independent variables are lagged one year. All variables are defined in detail in the appendix. A constant is included in each specification but not reported in the table. Significance at 10%, 5%, and 1%, is indicated by *, **, and ***.

	Not Winsorized		1% Truncation		Norm. Ind. Flows		Assets Match		Min. 5% Segm. Size	
	Patents	Cites	Patents	Cites	Patents	Cites	Patents	Cites	Patents	Cites
	(1)	(2)	(3)	(4)	(5)	(6)	(7)	(8)	(9)	(10)
Excess Centrality	0.745***	0.777***	0.468**	0.530**	0.916	1.547**	0.961***	1.190***	0.728***	0.767***
	0.065	0.062	0.046	0.047	0.048	0.074	0.080	0.092	0.065	0.062
	(2.85)	(2.62)	(1.99)	(2.05)	(1.41)	(2.09)	(2.60)	(2.93)	(2.78)	(2.76)
N. of Segments	-0.094	-0.121*	-0.104*	-0.153**	-0.133*	-0.203**	-0.011	0.001	-0.123*	-0.186**
	-0.050	-0.060	-0.063	-0.084	-0.074	-0.106	-0.005	0.000	-0.061	-0.085
	(-1.58)	(-1.72)	(-1.95)	(-2.46)	(-1.89)	(-2.46)	(-0.13)	(0.01)	(-1.90)	(-2.44)
Related Segments	-0.159*	-0.151	-0.099	-0.047	-0.115	-0.090	-0.307***	-0.365***	-0.139*	-0.121
	-0.059	-0.051	-0.041	-0.018	-0.044	-0.032	-0.106	-0.119	-0.051	-0.040
	(-1.93)	(-1.55)	(-1.35)	(-0.55)	(-1.41)	(-0.96)	(-2.72)	(-2.92)	(-1.67)	(-1.24)
Vert. Relatedness	-0.001**	-0.001	-0.001**	-0.000	-0.002	-0.001	-0.001	-0.001	-0.001**	-0.001
	-0.053	-0.041	-0.053	-0.026	-0.035	-0.018	-0.055	-0.040	-0.058	-0.041
	(-2.21)	(-1.37)	(-1.97)	(-0.85)	(-1.28)	(-0.58)	(-1.38)	(-0.80)	(-2.17)	(-1.25)
Excess Assets	-0.251***	-0.219***	-0.211***	-0.186***	-0.241***	-0.209***	-0.251***	-0.239***	-0.233***	-0.208***
	-0.239	-0.187	-0.227	-0.177	-0.239	-0.186	-0.240	-0.209	-0.230	-0.184
	(-9.28)	(-7.32)	(-8.65)	(-6.74)	(-9.27)	(-7.20)	(-7.49)	(-6.19)	(-8.99)	(-6.96)
Excess EBIT/Sales	-0.011	-0.029***	-0.010	-0.026***	-0.011	-0.029***	-0.005	-0.020	-0.023**	-0.036***
	-0.052	-0.085	-0.052	-0.086	-0.054	-0.087	-0.029	-0.064	-0.086	-0.102
	(-1.44)	(-3.36)	(-1.37)	(-3.24)	(-1.45)	(-3.34)	(-0.81)	(-1.61)	(-2.11)	(-4.11)
Excess Capex/Sales	0.035	0.029	0.027	0.014	0.039	0.032	0.005	-0.041	0.009	0.009
	0.032	0.022	0.026	0.012	0.037	0.026	0.005	-0.031	0.009	0.007
	(1.27)	(0.81)	(1.04)	(0.42)	(1.47)	(0.95)	(0.15)	(-0.64)	(0.34)	(0.26)
Year FE	Yes	Yes	Yes	Yes	Yes	Yes	Yes	Yes	Yes	Yes
R^2	0.112	0.090	0.097	0.079	0.108	0.089	0.108	0.103	0.114	0.093
N. of Observations	4,172	3,635	4,080	3,564	4,172	3,635	2,177	1,743	3,965	3,467