Appendix
Appendix A. Supplementary tables

Table A1 contains a list of search terms used to identify impact funds, Table A2 contains the list of countries with GDP per capita less than $1400, and Table A3 presents the mapping of percentile ranks to excess IRR.

In Table A4, we test the home bias argument for the pressure result in Section *5.4* by adding a triple interaction of *Impact*, *Pressure*, and *Homebias,* a dummy variable that equals one if the fund is in the same region as the LP. Table A4 reports logit estimates with dynamic LP investment groups akin to the attribute table (Table 8), where we add fixed effects for the interaction of impact and LP geography (column (1) and (4)), the interaction of impact and LP type (column (2) and (5)), or both interactions (columns (3) and (6)). In columns (1) to (3), we show the *Pressure* WTP results of Table A5 are qualitatively unchanged from Table 8 when we pare down the model to focus only on *Impact* and *Pressure* (Table A5, column (2), is akin to Table 8, column (3)). The key result is the economically large effect of the triple interaction of *Impact*, *Pressure*, and *Homebias* in columns (4) to (6). Investors subject to pressure are much more likely to invest in impact funds that are close to home. The double interaction of *Pressure* and *Homebias* is also consistently positive, though the economic magnitude is relatively small; LPs subject to political pressure prefer local nonimpact investments but not to the same extent that they prefer local impact funds. The double interaction of *Impact* and *Pressure* is reliably negative in two model specifications, which suggests that LPs subject to political pressure do not have a general preference for impact funds (and might actually spurn impact funds when they are not locally focused).

Table A1: Impact investment search phrases

base of the pyramid	greenhouse	social objectives
bottom of the pyramid	impact investing	social responsible
clean air	impoverished	socially conscious
clean water	indigenous	socially motivated
community invest	invest ethical	socially responsible
disadvantaged	investing ethical	socially-motivated
double bottom line	low carbon	SRI
dual bottom-line	low-carbon	sustainable agriculture
environmental impact	lower-carbon	sustainable development
environmental objective	minority community	sustainable economic development
environmentally clean	minority-owned	sustainable farming
environmentally conscious	missing middle	sustainable forestry
environmentally motivated	mission driven	sustainable investment
environmentally sustainable	mission investing	sustainable property
ethical invest	mission related	sustainable water
ethical objectives	mission-driven	tribe
ethically conscious	mission-related	triple bottom line
ethically motivated	poverty	triple bottom-line
ethically-conscious	S.R.I.	women owned
ethically-motivated	social finance	women-owned
green energy	social good	
green focused	social impact	

Table A2: Countries with GDP per capital less than $1,400

Country	GDP per capita	Country	GDP per capita	Country	GDP per capita
Pakistan	1,343	Haiti	833	Guinea-Bissau	589
Kyrgyzstan	1,299	Benin	822	North Korea	583
Chad	1,236	Sierra Leone	808	Ethiopia	575
Burma	1,221	Mali	754	Guinea	573
Bangladesh	1,172	Uganda	726	Liberia	484
Lesotho	1,130	Rwanda	722	Niger	469
South Sudan	1,127	Burkina Faso	717	Madagascar	449
Tajikistan	1,113	Nepal	699	Congo	437
Cambodia	1,081	Togo	658	Gambia	428
Senegal	1,072	Afghanistan	649	Central African Republic	380
Zimbabwe	1,031	Mozambique	630	Burundi	336
Tanzania	1,006	Eritrea	590	Malawi	242
Comoros	923				

Source: IMF World Economic Outlook 2014

Table A3

Distribution of IRR, VM, and PME for VC funds, 1995 to 2012.

The table reports the distribution of funds' final (or last reported) internal rate of return (IRR), value multiple (VM), or imputed public market equivalent (PME). Excess IRR (VM or PME) is the fund's IRR less the median IRR (VM or PME) for cohort funds. Cohorts are defined by vintage year and geography. Panel A presents percentiles of the distribution. Panel B translates percentile rank spreads centered on the median performance measure to a performance spread for each of the performance variable.

Percentile	IRR	Excess IRR	VM	Excess VM	PME	Excess PME
Panel A: Percentiles of performance measures						
5th	-14.5	-24.0	0.34	-0.88	0.43	-0.69
10th	-9.5	-15.9	0.51	-0.67	0.55	-0.49
15th	-6.1	-12.2	0.67	-0.53	0.64	-0.42
20th	-3.5	-9.8	0.79	-0.43	0.72	-0.35
25th	-1.4	-7.6	0.87	-0.35	0.80	-0.27
30th	0.5	-5.4	0.95	-0.26	0.85	-0.21
35th	2.5	-4.2	1.00	-0.18	0.91	-0.16
40th	4.3	-2.3	1.08	-0.12	0.97	-0.10
45th	5.9	-1.0	1.14	-0.05	1.02	-0.04
50th	7.3	0.0	1.21	0.00	1.08	0.00
55th	8.4	0.6	1.28	0.03	1.14	0.05
60th	9.9	1.9	1.36	0.10	1.20	0.09
65th	11.2	3.4	1.44	0.18	1.25	0.14
70th	13.1	4.9	1.52	0.27	1.32	0.20
75th	15.3	6.9	1.63	0.36	1.39	0.28
80th	18.3	9.2	1.76	0.49	1.48	0.37
85th	23.0	12.1	1.93	0.68	1.60	0.51
90th	30.7	18.8	2.22	0.93	1.82	0.68
95th	46.7	32.1	3.04	1.76	2.55	1.32
Interquartile range	16.7	14.5	0.76	0.71	0.59	0.55
N	1,283	1,283	1,456	1,455	1,212	1,212

Percentile rank spread	IRR	Excess IRR	VM	Excess VM	PME	Excess PME
Panel B: Mapping of percentile rank spread to performance						
1	0.3	0.0	0.03	0.00	0.01	0.00
2	0.5	0.1	0.04	0.01	0.02	0.01
3	0.7	0.1	0.05	0.01	0.03	0.03
4	0.9	0.4	0.07	0.03	0.05	0.03
5	1.1	0.6	0.07	0.03	0.06	0.04
6	1.4	0.8	0.09	0.03	0.07	0.05
7	1.7	1.0	0.09	0.05	0.08	0.06
8	2.0	1.2	0.11	0.05	0.09	0.07
9	2.4	1.5	0.11	0.07	0.10	0.08
10	2.5	1.6	0.13	0.08	0.11	0.09
11	2.7	2.0	0.15	0.09	0.12	0.10
12	3.1	2.2	0.17	0.10	0.13	0.11
13	3.4	2.5	0.17	0.11	0.14	0.13
14	3.8	2.8	0.20	0.12	0.15	0.13
15	4.0	3.0	0.21	0.13	0.16	0.14
16	4.2	3.3	0.22	0.15	0.18	0.15
17	4.6	3.4	0.24	0.18	0.19	0.16
18	4.9	3.7	0.26	0.19	0.20	0.17
19	5.3	3.9	0.27	0.21	0.22	0.18
20	5.6	4.2	0.28	0.22	0.23	0.19
21	5.9	4.6	0.30	0.23	0.24	0.20
22	6.0	4.7	0.30	0.23	0.26	0.22
23	6.5	5.1	0.32	0.25	0.26	0.23
24	6.8	5.4	0.33	0.25	0.27	0.24
25	7.1	5.7	0.35	0.27	0.28	0.25
26	7.3	6.1	0.37	0.29	0.29	0.26
27	7.6	6.2	0.38	0.31	0.31	0.27
28	8.1	6.7	0.39	0.32	0.31	0.28
29	8.4	7.2	0.41	0.33	0.33	0.29
30	8.7	7.6	0.43	0.36	0.34	0.30
31	9.3	7.8	0.44	0.37	0.35	0.32
32	9.5	8.1	0.46	0.39	0.36	0.32
33	9.9	8.2	0.48	0.40	0.38	0.33
34	10.4	8.4	0.50	0.42	0.39	0.35
35	10.7	8.7	0.50	0.44	0.40	0.36
36	11.0	9.0	0.52	0.45	0.41	0.37
37	11.3	9.2	0.53	0.47	0.42	0.38
38	11.9	9.7	0.54	0.48	0.43	0.39
39	12.3	10.0	0.56	0.51	0.45	0.40
40	12.6	10.3	0.58	0.53	0.47	0.41

Table A4

Interactions of home bias, pressure, and impact on willingness to pay.

The dependent variable is a dummy variable that equals one if an LP invests in a fund. Observations are determined by crossing all vintage year funds with LPs that make an investment in that year. *Impact* equals one for impact funds. *Expected returns* are expressed as percentile ranks relative to vintage year cohort funds and are modeled based on known fund characteristics at the time of investment and are adjusted for shrinkage. Homogenous expected return forecast is used. Heterogeneity in investment rates is modeled using dynamic LP investment group controls. All models include standard controls (see text and Table 5 for details) plus the double interaction of *Impact* and *Pressure* in models (1) to (3) or the triple interaction of *Impact*, *Pressure*, and *Homebias* in models (4) to (6). The models introduce controls for the interaction of impact and LP geography (models 1 and 4), impact and LP Type (models 2 and 5), or both (models 3 and 6). In Panel A, robust standard errors are in brackets. *** p<0.01, ** p<0.05, * p<0.1

	Logit Model					
	(1)	(2)	(3)	(4)	(5)	(6)
Panel A: Model estimates						
Expected returns	3.341***	3.394***	3.370***	3.379***	3.441***	3.413***
	[0.276]	[0.275]	[0.275]	[0.276]	[0.276]	[0.276]
Impact	-0.333	0.396	-0.129	-0.22	0.500*	0.0333
	[0.271]	[0.253]	[0.328]	[0.272]	[0.260]	[0.341]
Pressure	-0.0265	-0.0302	-0.0374	-0.219***	-0.227***	-0.231***
	[0.0491]	[0.0510]	[0.0511]	[0.0743]	[0.0763]	[0.0760]
Impact*Pressure	0.603***	0.454**	0.808***	-0.921***	-1.054***	-0.741*
	[0.125]	[0.227]	[0.272]	[0.286]	[0.377]	[0.409]
Pressure*Homebias				0.280***	0.290***	0.286***
				[0.0762]	[0.0765]	[0.0764]
Impact*HomeBias				-0.222	-0.151	-0.201
				[0.136]	[0.128]	[0.130]
Impact*Pressure*Homebias				2.004***	1.939***	1.971***
				[0.307]	[0.305]	[0.305]
Panel B: Incremental willingness to pay (WTP)						
Impact*Pressure	0.18***	0.13***	0.24***	-0.27***	-0.31***	-0.22*
Pressure*Homebias				0.08***	0.08***	0.08***
Impact*HomeBias				-0.07	-0.04	-0.06
Impact*Pressure*Homebias				0.59***	0.56***	0.58***
Impact*LP geo	YES	NO	YES	YES	NO	YES
Impact*LP type	NO	YES	YES	NO	YES	YES
Standard controls	YES	YES	YES	YES	YES	YES
Pseudo R-squared	0.261	0.261	0.261	0.262	0.262	0.262
Observations	3,047,430	3,047,430	3,047,430	3,047,430	3,047,430	3,047,430

Appendix B. Attenuation bias and shrinkage regression

In the main text, we argue the WTP estimates are reasonable if $\text{cov}(\mathbb{E}[\text{r}_j], \xi) + \text{cov}(\xi, u) = 0$. In the analysis that follows, we outline the bias that would occur if this summation is nonzero.

The standard slope coefficient from the regression $y = a + b\widehat{\mathbb{E}}[\text{r}_j] + e$, where $\widehat{\mathbb{E}}[\text{r}_j] = \mathbb{E}[\text{r}_j] + u$ yields

$$\begin{aligned}\text{plim}(\hat{b}) &= \frac{cov(\mathbb{E}[\text{r}_j] + u, a + b\mathbb{E}[\text{r}_j] + e)}{\sigma^2(\mathbb{E}[\text{r}_j] + u)} \\ &= \frac{b\left(\sigma^2_{\mathbb{E}[\text{r}_j]} + cov(\mathbb{E}[\text{r}_j], u)\right) + cov(\mathbb{E}[\text{r}_j], e) + cov(e, u)}{\sigma^2_{\mathbb{E}[\text{r}_j]} + \sigma_u^2 + 2cov(\mathbb{E}[\text{r}_j], u)} \\ &= \lambda b + \frac{cov(\mathbb{E}[\text{r}_j], e) + cov(e, u)}{\sigma^2_{\mathbb{E}[\text{r}_j]} + \sigma_u^2 + 2cov(\mathbb{E}[\text{r}_j], u)}.\end{aligned} \tag{B1}$$

Taking the classic errors-in-variable framework where $cov(\mathbb{E}[\text{r}_j], e) = \text{cov}(\xi, e) = cov(e, u) = 0$, the attenuation bias is measured by λ:

$$\lambda = \frac{\left(\sigma^2_{\mathbb{E}[\text{r}_j]} + cov(\mathbb{E}[\text{r}_j], u)\right)}{\sigma^2_{\mathbb{E}[\text{r}_j]} + \sigma_u^2 + 2cov(\mathbb{E}[\text{r}_j], u)}. \tag{B2}$$

The slope parameter (γ_1) of the shrinkage regression of Eq. (10) from the main text can be written as

$$\begin{aligned}\gamma_1 &= \frac{cov(\widehat{\mathbb{E}}[\text{r}_j], r_j)}{\sigma^2_{\widehat{\mathbb{E}}[\text{r}_j]}} = \frac{cov(\mathbb{E}[\text{r}_j] + u,\ \mathbb{E}[\text{r}_j] + \xi)}{\sigma^2(\mathbb{E}[\text{r}_j] + u)} \\ &= \frac{\sigma^2_{\mathbb{E}[\text{r}_j]} + cov(\mathbb{E}[\text{r}_j], u) + cov(\mathbb{E}[\text{r}_j], \xi) + cov(u, \xi)}{\sigma^2_{\mathbb{E}[\text{r}_j]} + \sigma_u^2 + 2cov(\mathbb{E}[\text{r}_j], u)}.\end{aligned} \tag{B3}$$

To sign the bias, we can analyze the difference between the attenuation bias (λ) and the slope coefficient from the shrinkage regression (γ_1):

$$\begin{aligned}\gamma_1 - \lambda &= \frac{\sigma^2_{\mathbb{E}[\text{r}_j]} + cov(\mathbb{E}[\text{r}_j], u) + cov(\mathbb{E}[\text{r}_j], \xi) + cov(u, \xi) - \sigma^2_{\mathbb{E}[\text{r}_j]} - cov(\mathbb{E}[\text{r}_j], u)}{\sigma^2_{\mathbb{E}[\text{r}_j]} + \sigma_u^2 + 2cov(\mathbb{E}[\text{r}_j], u)} \\ &= \frac{cov(\mathbb{E}[\text{r}_j], \xi) + cov(u, \xi)}{\sigma^2_{\mathbb{E}[\text{r}_j]} + \sigma_u^2 + 2cov(\mathbb{E}[\text{r}_j], u)}.\end{aligned} \tag{B4}$$

Consider the effect of the bias, $(\gamma_1 - \lambda)$, on our estimates of the WTP for impact, which is estimated as the ratio of coefficient on impact divided by coefficient on expected return. When we shrink the expected return, we obtain a larger coefficient on expected return and thus a smaller WTP. As a result, WTP is increasing in the shrinkage parameter, $\frac{\partial WTP}{\partial \gamma_1} > 0$. This is an appropriate adjustment if the shrinkage parameter is an unbiased estimate of the attenuation bias (λ). It will lead to bias in the WTP estimates if the assumptions in the main text are violated as follows.

1. The bias, $\gamma_1 - \lambda$, is increasing in $cov(\mathbb{E}[r_j], \xi)$. Thus, the bias in WTP is positively related to $cov(\mathbb{E}[r_j], \xi)$.
2. The bias, $\gamma_1 - \lambda$, is increasing in $cov(u, \xi)$. Thus, the bias in WTP is positively related to $cov(u, \xi)$.
3. The absolute magnitude of the bias, $|\gamma_1 - \lambda|$, is decreasing in $cov(\mathbb{E}[r_j], u)$. Note that $cov(\mathbb{E}[r_j], u)$ only appears in the denominator of the bias measure and thus only affects the absolute magnitude of the attenuation bias since the denominator is strictly nonnegative. The denominator is strictly nonnegative because it represents the variance of forecast expected returns, $\sigma^2_{\widehat{\mathbb{E}}[r_j]} = \sigma^2_{\mathbb{E}[r_j]} + \sigma^2_u + 2cov(\mathbb{E}[r_j], u)$.

Appendix C. Estimating gross value multiple (*GVM*) from value multiple (*VM*)

For VC funds, *GVM* for the fund is defined as

$$GVM = \frac{D+U+C}{K}, \tag{C1}$$

where *D* is the total cash distributions to LPs, *U* is the estimated value of unrealized investments, *C* is the carry paid to the GP, and *K* is the total cost basis of invested capital.

The value multiple for the fund is defined as

$$VM = \frac{D+U}{K+F}, \tag{C2}$$

where *F* is total management fees paid to the GP.

Assume the fund is fully invested and completed. Then the capital commitments of LPs is the sum of invested capital and management fees (*CK=K+F*) and U is 0. The *GVM* is the investment return on portfolio companies before deducting management fees and carried interest. The *VM* is the investment return earned by the LP net of management fees and carried interest. The relation between the two can be written as

$$GVM = \frac{VM*CK+C}{K}. \tag{C3}$$

Assume that management fees are 2% per year, a ten-year fund life, and carried interest is 20% of fund profit after the return of committed capital, which are all standard contract terms in private equity. We assume the total management fees over the course of the fund's life are 20% (2% per year for ten years) such that $K = 0.8*CK$. If the fund's total cash distribution is less than committed capital ($VM \leq 1$), then there is no carried interest ($C=0$) and

$$GVM = \frac{VM*CK}{0.8*CK} = 1.25VM, \text{ if } VM \leq 1. \tag{C4}$$

If the fund's total cash distribution is greater than committed capital ($VM>1$), carried interest is

$$C = 0.2(GVM * 0.8 * CK - CK), \text{ and thus} \tag{C5}$$

$$GVM = \frac{VM*CK+0.2(GVM*0.8*CK-CK)}{0.8*CK} = \frac{VM-0.20}{0.64}, \text{ if } VM>1. \tag{C6}$$

We impute GVM using the above two formulas and the sample of funds with vintage years of 2005 or earlier. The mean (median) fund-level gross value multiple in the mature fund sample is 2.3 (1.5). The excess GVM is fund GVM minus the median GVM for cohort funds. Applying the estimated willingness to pay of 13-18 percentile ranks to the distribution of excess GVM yields a range of 0.29 to 0.43 in excess GVM.