Appendix A: Instrument Validity

To provide evidence that prices do not vary by day of the week, I regress daily lobster prices on Saturday and Sunday indicators, a set of year indicators, and a set of dealer fixed effects. If dealers vary their prices according to the day of the week, this will be reflected by significance of the Saturday and Sunday coefficients shown in Panel A of Table A1. These coefficients are very small in both magnitude[1] and significance suggesting no day-of-week price effects.

Table A1. Price Variation by Day-of-Week and Hurricane Activity

Variable	Coefficient	Standard Error	t-Statistic
	Panel A: Price by day-of-week		
Saturday	-0.0009	0.0158	-0.0553
Sunday	-0.0073	0.0168	-0.4370
	Panel B: Price by hurricane activity		
Hurricane (prep)	-0.0184	0.0462	-0.3980
Hurricane (land)	0.0731	0.0676	1.0810
Hurricane (post)	0.1120	0.0290	3.8480

NOTE.—Weekdays are the omitted category in Panel A and days more than three days before or three days after hurricane activity are the omitted category in Panel B. In both regressions, additional explanatory variables include year indicators and a complete set of dealer fixed effects. Standard errors are clustered at the calendar date level.

A similar test can be performed to determine whether or not dealers systematically vary prices on days preceding hurricane activity. I regress daily lobster prices on a set of hurricane activity indicators, a set of year indicators, and a set of dealer fixed effects.[2] Results are shown in Panel B of Table A1. The coefficient on "Hurricane (prep)" is both small in magnitude and statistically insignificant, suggesting that dealers do not systemically increase or decrease prices on these days relative to days more than three days before or three days after hurricane activity.

Appendix B: Data Description

Defining the Population

The full set of trip tickets includes a variety of fishermen and a variety of fishing trips and many of these trip tickets are not relevant to the study of labor supply decisions of *lobster trap* fishermen in the *lobster* fishery. Therefore, the relevant population and their trips must be identified and extracted from the larger dataset. Table B1 chronicles the effect that this process has on the sample of trip tickets and fishermen. The first column identifies criteria that are applied to the sample. Variations in these criteria create four main samples, which correspond to the four panels in Table B1. "Gear" identifies whether all fishers or

[1] Given an average within sample price of $4.54 per pound, and ignoring the lack of significance for the moment, regression results suggest that Saturday and Sunday prices are 0.02% and 0.16% lower than weekday prices, respectively. Given typical daily landings of 300 pounds, this suggest an average decrease in daily earnings of roughly $0.26 and $2.20 on Saturdays and Sundays, respectively.

[2] Hurricane activity indicators are described in the main text.

Table B1. Constructing the Relevant Population

Criteria	Gear	Fishers	Seasons		Trips	
			Actual	Possible	Actual	Possible
			Sample A			
Complete Population	All	2,578	11,909	13,368	271,831	3,184,696
Beginning of Season	All	2,140	10,391	11,730	137,357	821,100
Lobster Trips (#1)	All	2,140	10,391	11,730	137,357	821,100
Lobster Trappers	Trappers	1,077	5,394	5,849	97,588	409,430
Lobster Fishermen (#1)	Trappers	1,077	5,394	5,394	97,588	377,580
Incomplete Hours Records	Trappers	997	4,703	4,703	79,736	320,765
Complete Hours Records	Trappers	832	2,646	2,646	40,363	185,220
			Sample B			
Complete Population	All	2,578	11,909	13,368	271,831	3,184,696
Beginning of Season	All	2,140	10,391	11,730	137,357	821,100
Lobster Trips (#1)	All	2,140	10,391	11,730	137,357	821,100
Lobster Trappers	Trappers	1,077	5,394	5,849	97,588	409,430
Lobster Fishermen (#2)	Trappers	865	4,922	4,922	96,858	344,540
Incomplete Hours Records	Trappers	816	4,318	4,318	79,141	293,841
Complete Hours Records	Trappers	648	2,281	2,281	39,805	159,670
			Sample C			
Complete Population	All	2,578	11,909	13,368	271,831	3,184,696
Beginning of Season	All	2,140	10,391	11,730	137,357	821,100
Lobster Trips (#2)	All	2,080	10,202	11,531	135,651	807,170
Lobster Trappers	Trappers	1,074	5,396	5,855	97,435	409,850
Lobster Fishermen (#1)	Trappers	1,074	5,396	5,396	97,435	377,720
Incomplete Hours Records	Trappers	997	4,709	4,709	79,633	321,203
Complete Hours Records	Trappers	832	2,652	2,652	40,381	185,640
			Sample D			
Complete Population	All	2,578	11,909	13,368	271,831	3,184,696
Beginning of Season	All	2,140	10,391	11,730	137,357	821,100
Lobster Trips (#2)	All	2,080	10,202	11,531	135,651	807,170
Lobster Trappers	Trappers	1,074	5,396	5,855	97,435	409,850
Lobster Fishermen (#2)	Trappers	863	4,921	4,921	96,704	344,470
Incomplete Hours Records	Trappers	815	4,320	4,320	79,036	294,000
Complete Hours Records	Trappers	647	2,284	2,284	39,822	159,880

only trappers are included in the sample; "Fishers" counts the number of unique fishermen; "Seasons" counts the number of unique fisherman-lobster season pairs, where "Actual" refers to fisherman-season pairs for which at least one lobster trip is observed and "Possible" also includes pairs with no observed trips; and "Trips" counts the number of fisherman-day pairs, where "Actual" refers to observed lobster trips and "Possible" refers to all open season days.

First, I restrict my analysis to include only days between August 6th and October 14th of each season. The reasons for this are discussed in the main text. The effect of this restriction on the resulting sample size is reflected in rows labeled "Beginning of Season". More than 80% of fishermen make at least one trip during this window of time so most fishermen are retained by this criterium. Next, I determine whether a particular trip containing lobsters reflects intent to fish for lobsters or simply incidental catch. I infer intent based on observed catch. There are 137,357 trips made by fishermen on which some amount of lobsters was sold, and, on average, the sale of lobsters constitutes 98% of the total value of a trip. For the vast majority of trips (93%), lobsters are the only species recorded. I classify these trips as lobster trips. The roughly 10,000 remaining trips report mixed catch. I consider two different rules to classify each of these as lobster- or non-lobster-trips. Rows labelled "Lobster Trips" reflect the application of these rules. The first rule, applied to Samples A and B, simply defines a lobster trip as one containing *any* amount of lobsters. The second, applied to Samples C and D, defines a lobster trip as one in which at least 50% of the total value of the trip is from lobster sales. This re-designates 1% of the trips in the sample as non-lobster trips.

The main methods of harvesting lobsters are with traps and by diving. This study focuses on trappers only. The majority of fishermen (e.g. 85% of fishermen in Sample A) report a single gear type used on all observed lobster trips. For these fishermen, it is straightforward to identify trappers. For the remaining fishermen, I apply the following rules to identify trappers. Roughly 3,000 trips associated with these fishermen record more than one gear type. I drop lobster seasons for which more than one gear type was recorded on a single trip more than one-third of the time. For the remaining seasons, I designate seasons as trap-seasons if at least 90% of trips report traps as the gear used. I keep fishermen for whom the majority of observed seasons are trap-seasons and then drop all non trap-seasons. Rows labelled "Lobster Trappers" describe the effect of these rules on the sample. Note, the majority of fishermen that get dropped by these rules are fishermen that primarily report diving as their method of harvesting lobsters. For example, approximately 50% of fishermen in Sample A are classified as trappers (1,077 out of 2,140), 40% are classified as divers, and 10% have an ambiguous classification due to a lack of gear specialization.

While the remaining trap fishermen have all made at least one trip in which lobsters was the primary species sold, whether or not all of these fishermen should be considered lobster fishermen solely on this basis is left to be determined. This is an important distinction since I am assuming that fishing for lobsters is a viable option for each fisherman in the sample on each day in the season and for all seasons observed. If a fisherman makes few lobster trips throughout the sample relative to other non-lobster trips, fishing for lobsters may not regularly be in the fisherman's choice set. To better ensure that it is, I reduce the sample based on absolute and relative participation in the lobster fishery. Determining relative participation is possible since I observe all trips made by each fisherman and not just lobster trips. Because fishermen must drop traps before they can fish and must remove traps from the ocean before the end of the season and because it is unlikely for a fisherman to make a trip, but have no catch to sell, it seems unlikely that fishing for lobsters is a viable daily option during seasons with zero observed trips. To capture this, "Lobster Fishermen (#1)" drops all fisherman-season pairs with no observed lobster trips. "Lobster Fishermen (#2)" further reduces the sample by also dropping (i) fisherman-season pairs with a single lobster trip, (ii) fisherman-season pairs for which less than 5% of a fisherman's total fishing revenues or trips come from lobster revenues or lobster trips, respectively, and (iii) fishermen that make less than five lobster trips during their entire tenure in the sample.

Lastly, in order to estimate the wage elasticity of daily hours worked, trip length must be reported on the trip ticket and "hours", not "days", must be the unit of measurement. Unfortunately, there are some instances in which time fished is missing or "days" is indicated as the unit of measurement. These trip tickets cannot be used in the analysis and are dropped from the sample. I refer to dropped tickets as "invalid" and to those that remain as "valid". Of all the trips in the current sample, roughly 5% are missing hours and roughly 13% record days at sea.[3] By dropping these invalid trip tickets, I also drop 5-7% of fishermen because they never make a trip on which hours at sea is recorded. This should cause no bias in estimation provided valid trips are not systematically different than invalid trips in such a way that would influence results. The raw data suggest this is a reasonable assumption. I refer to this sample of fishermen as having "Incomplete Hours Records" because I do not require all observed trips to be valid trips in order for the fisherman to remain in the sample.

To test the sensitivity of results to this assumption, I also construct a sample of fishermen with complete hours information in the sense that time fished is never missing and "days" is never indicated as the unit of measurement. However, the more lobster trips a fisherman makes, the greater the chance that at least one trip ticket will be invalid. Consequently, when fishermen with incomplete hours records are dropped, this disproportionately affects fishermen that have made a large number of trips. While 15-20% of fishermen are dropped, almost 50% of trips are dropped, substantially reducing the sample and changing the composition of fishermen. Nevertheless, this specification allows for a more robust analysis. I refer to this sample of fishermen as having "Complete Hours Records" in the analyses that follow.

I estimate the models described in Section III.A of the main text on the Incomplete and Complete Hours Records versions of the four samples described in Table B1. Results are discussed in Appendix C.

Participation Rules

For fisherman-season pairs that remain in the sample, all open season days are presently included as possible choice occasions. However, whether lobstering is justly in a fisherman's choice set on each open season day is unclear. For example, fishermen may enter the season late, quit early, or take breaks in between. In such cases, the inclusion of all open season days as occasions to fish for lobsters is a poor characterization of a fisherman's true choice set, which may lead to poor estimates of wage elasticities. For this reason, I consider several different participation rules to classify open season days as occasions to fish for lobsters or otherwise.

The most conservative rule, Rule 1, includes *all* open season days as viable fishing opportunities. Rule 2 adds an exit rule that posits that fishermen exit the fishery immediately after their last observed lobster trip over the full season. This rule assumes that fishermen do, in fact, have catch to sell on their last trip and that once traps are removed from the ocean fishermen do not consider re-dropping them, which seems quite reasonable. This is the rule that is applied in the analyses discussed in the main text. Rules 3 and 4 share the same industry exit rule as Rule 2, but differ in the additional criteria they apply. Rule 3 allows for the possibility that fishermen temporarily exit the industry during the season. For each fisherman, I calculate the number of inactive days between trips. In the Incomplete Hours Records sample, the median period of inactivity across all fishermen and all breaks is 3 days, the 95th percentile is 14 days, and the 99th percentile is 32 days. I define a temporary exit as one that exceeds the 95th percentile and thereby drop all open season days that fall within a period of inactivity of 14 days or more.

[3] The vast majority (~75%) of trip tickets recording "days" record "1" for time fished, indicating how uncommon it is for lobster fishermen to remain at sea for more than one day at a time.

Table B2. The Effect of Variation in Participation Rules on Sample Characteristics

Variable	Incomplete Hours Records Mean	Incomplete Hours Records Standard Deviation	Complete Hours Records Mean	Complete Hours Records Standard Deviation
Active fishermen on a given day				
Rule 1	382.09	48.81	217.72	19.80
Rule 2	365.91	49.48	203.03	21.01
Rule 3	275.95	47.61	153.43	20.39
Rule 4	329.85	43.79	178.06	16.72
Daily participation rate				
Rule 1	0.250	0.112	0.220	0.100
Rule 2	0.261	0.114	0.236	0.104
Rule 3	0.351	0.145	0.315	0.134
Rule 4	0.288	0.130	0.267	0.121
Average hours at sea				
Rules 1 - 3	8.14	0.32	8.08	0.42
Rule 4	8.15	0.32	8.08	0.42
Average hourly earnings				
Rules 1 - 3	165.27	52.46	161.23	54.58
Rule 4	164.99	52.18	161.41	54.68
Fishermen in sample				
Rules 1 - 3	965		804	
Rule 4	866		709	
Total lobster trips made				
Rules 1 - 3	78,914		39,825	
Rule 4	78,566		39,579	
Total choice occasions				
Rule 1	315,898		181,370	
Rule 2	301,924		168,707	
Rule 3	224,982		126,553	
Rule 4	272,387		148,269	

There are a couple of caveats to Rule 3. First, fishermen rarely remove traps from the ocean and re-drop them within the same season. Therefore, the assumption Rule 3 makes is that while a fisherman's traps are available to pull, he is for some reason temporarily unable to pull them. Second, long breaks could easily reflect deliberate non-participation. For example, it is not uncommon for fishermen to allow a particular trap to soak for more than 14 days.[4] For fishermen that are able to pull all or most of their traps in one day, a 14+ day period of inactivity could simply represent an intention to allow traps to soak. If one reason for leaving traps to soak is low expected earnings, classifying these open season days as temporary exits will lead to a downward-biased estimate of the participation elasticity.

For this reason, Rule 4 takes a different approach to identifying additional non-choice

[4]Summary statistics of a survey of 272 commercial lobster trap fishermen during the 2000/01 lobster season report an average soak time of 8.59 days (Shivlani et al., 2004). The 2007/08 personal logbook of one full-time commercial lobster trap fisherman indicates a median soak time of ten days and a 90th percentile of 18 days.

occasion days. First, it adds an entry rule that posits that fishermen enter the fishery no earlier than ten days prior to the first observed lobster trip. The rationale is that a fisherman's decision to drop traps is typically accompanied with the intent to pull those traps relatively soon, or else they would have delayed dropping them in the first place. Once this entry rule and the exit rule described by Rule 2 are in place, there are very few observations left for fisherman-season pairs with a single observed lobster trip. For this reason, Rule 4 drops these pairs. Finally, although few, some fishermen are only ever observed to participate on the weekends. To account for the possibility that these fishermen are unable to fish on weekdays due to other commitments, Rule 4 drops all weekdays as choice occasions for these fishermen.

Table B2 describes the sample characteristics associated with each of these participation rules. I estimate the models described in Section III.A of the main text on the eight samples that are created by applying these four participation rules to both the Incomplete and Complete Hours Records versions of Sample A (described in Table B1). Results are discussed in Appendix C.

Summary Statistics

Complete summary statistics are provided in Tables B3 - B5. To generate these statistics, I first calculate participation rates, average daily hours, and average hourly earnings for each open season day in the sample. I then take a weighted average across all days sharing the same characteristic, where daily values are weighted by the number of fishermen participating that day. Table B3 illustrates how daily participation rates vary across observable day characteristics. Characteristics may directly affect participation if they affect preferences for fishing. They may also indirectly affect participation if they affect earnings and labor supply is a function of earnings. Participation monotonically decreases as the season progresses, likely reflecting changes in lobster abundance and the onset of the stone crab season (opening annually on October 15th), which will induce some fishermen to shift time to the preparation of stone crab traps. Fishermen are less likely to participate on weekends, particularly on Sundays. A key identifying assumption I make is that this reduction in participation is entirely a reflection of fishing preferences (e.g. a preference for leisure on weekends) and not due to variation in day-of-week earnings. While fishermen under thirty years of age have lower participation rates than their counterparts, this differential is larger on Saturdays than on Sundays, providing motivation for the inclusion of weekend-age interactions in models of labor supply. Participation rates are substantially lower on days surrounding hurricane activity, presumably reflecting the need to prepare vessels and homes before, the desire to avoid hostile weather during, and the need to clean up after hurricane acticity. Fishermen are less likely to participate on rainy days and windy days when fishing is generally unpleasant and possibly less productive. Fishermen are not more likely to participate on days immediately following high winds. However, given the strong correlation between current and lagged wind speed and that current wind speed is not controlled for in these simple averages, this is not surprising. Participation rates are lower on days surrounding the full moon. I argue that this variation is due entirely to the effect of the moon phase on earnings and not due to a preference for fishing during the new moon. Finally, participation appears to be unaffected by the unemployment rate. However, given the correlation between unemployment and other variables, such as the month of the year, this is not surprising.

Table B4 illustrates how daily average hours worked varies across observable day characteristics. The relationships between characteristics and hours are similar to those for

Table B3. Summary Statistics of Daily Participation Rates

Variable	Incomplete Hours Records: Mean	Incomplete Hours Records: Standard Deviation	Complete Hours Records: Mean	Complete Hours Records: Standard Deviation
All days	0.261	0.114	0.236	0.104
August	0.307	0.101	0.271	0.092
September	0.248	0.116	0.226	0.106
October	0.202	0.101	0.187	0.095
Weekdays	0.287	0.109	0.255	0.100
Saturdays	0.244	0.100	0.232	0.097
Sundays	0.152	0.082	0.147	0.079
Age > 30 (All days)	0.263	0.115	0.238	0.105
Age ≤ 30 (All days)	0.227	0.142	0.179	0.159
Age > 30 (Saturdays)	0.246	0.101	0.234	0.098
Age ≤ 30 (Saturdays)	0.196	0.122	0.169	0.156
Age > 30 (Sundays)	0.153	0.083	0.148	0.081
Age ≤ 30 (Sundays)	0.128	0.108	0.116	0.113
Hurricane (prep)	0.079	0.058	0.067	0.055
Hurricane (land)	0.041	0.065	0.036	0.056
Hurricane (post)	0.179	0.185	0.167	0.172
Precipitation $> 0.15in$	0.239	0.121	0.215	0.112
Precipitation $\leq 0.15in$	0.270	0.110	0.244	0.099
Wind speed $> 5m/s$	0.222	0.122	0.201	0.110
Wind speed $\leq 5m/s$	0.297	0.094	0.267	0.087
Lagged wind speed $> 5m/s$	0.254	0.128	0.233	0.119
Lagged wind speed $\leq 5m/s$	0.266	0.104	0.238	0.093
Full moon $> 1/2$	0.247	0.105	0.222	0.093
Full moon $\leq 1/2$	0.274	0.121	0.248	0.111
Unemployment $> 4.5\%$	0.262	0.116	0.229	0.103
Unemployment $\leq 4.5\%$	0.261	0.113	0.241	0.104
Open season days in sample	836		833	
Total lobster trips made	78,914		39,825	
Total choice occasions	301,924		168,707	

Note.—To generate the above statistics, I first calculate the participation rate for each open season day in the sample. I then take a weighted average across all days sharing the same characteristic, where daily values are weighted by the number of fishermen participating that day.

participation rates. Hours decrease as the season progresses and are lower on weekends. They are also lower on days when hurricanes make landfall, on days surrounding the full moon, and on days with low unemployment. While there are some differences, overall, there is little variation in daily hours worked across observable characteristics.

Table B5 illustrates how average hourly earnings vary across observable day characteristics. *Observable* earnings vary for two reasons. Foremost, they vary because underlying earnings vary. For example, lobster abundance tends to be greatest at the beginning of the season. This is corroborated by the monotonic decrease in mean (observed) hourly earnings

Table B4. Summary Statistics of Daily Average Hours

Variable	Incomplete Hours Records Mean	Incomplete Hours Records Standard Deviation	Complete Hours Records Mean	Complete Hours Records Standard Deviation
All days	8.144	0.322	8.079	0.421
August	8.202	0.289	8.125	0.387
September	8.139	0.315	8.076	0.410
October	7.987	0.378	7.951	0.514
Weekdays	8.175	0.301	8.119	0.401
Saturdays	8.040	0.316	7.965	0.401
Sundays	8.020	0.441	7.911	0.535
Age > 30 (All days)	8.161	0.326	8.102	0.421
Age ≤ 30 (All days)	7.634	1.199	7.281	1.683
Age > 30 (Saturdays)	8.051	0.321	7.979	0.409
Age ≤ 30 (Saturdays)	7.597	1.135	7.462	1.576
Age > 30 (Sundays)	8.037	0.452	7.938	0.551
Age ≤ 30 (Sundays)	7.492	1.584	6.974	1.668
Hurricane (prep)	8.132	0.586	8.081	0.761
Hurricane (land)	7.860	0.700	8.034	0.721
Hurricane (post)	8.504	0.361	8.638	0.348
Precipitation $> 0.15in$	8.145	0.315	8.095	0.404
Precipitation $\leq 0.15in$	8.144	0.325	8.074	0.427
Wind speed $> 5m/s$	8.135	0.349	8.073	0.462
Wind speed $\leq 5m/s$	8.151	0.303	8.083	0.391
Lagged wind speed $> 5m/s$	8.163	0.339	8.117	0.439
Lagged wind speed $\leq 5m/s$	8.133	0.311	8.056	0.409
Full moon $> 1/2$	8.085	0.322	8.024	0.426
Full moon $\leq 1/2$	8.190	0.315	8.121	0.413
Unemployment $> 4.5\%$	8.222	0.344	8.112	0.491
Unemployment $\leq 4.5\%$	8.076	0.285	8.055	0.360
Open season days in sample	836		833	
Total lobster trips made	78,914		39,825	
Total choice occasions	301,924		168,707	

NOTE.—See Table B3.

across months. Observable earnings may also vary as a result of self-selection. On low "reservation wage" days, earnings need not be as high as usual in order to encourage participation, and vice versa. As a result, characteristics that reduce (increase) the reservation wage will be associated with lower (higher) observed earnings. The extent to which this is reflected in *average* observed earnings will depend on the nature of labor supply preferences and heterogeneity in these preferences. For example, fishermen appear to dislike fishing on weekends (Table B3). As a result, reservation wages will be higher on weekends, and, consequently, observed earnings will be higher on weekends *for any given fisherman* with such preferences. Indeed, regressing (observed) hourly earnings on Saturday and Sunday

Table B5. Summary Statistics of Average Hourly Earnings

	Incomplete Hours Records		Complete Hours Records	
Variable	Mean	Standard Deviation	Mean	Standard Deviation
All days	165.27	52.46	161.23	54.58
August	178.67	51.44	172.62	52.88
September	156.21	49.20	153.87	52.79
October	149.73	54.47	147.12	57.61
Weekdays	165.33	51.68	161.20	53.71
Saturdays	160.98	50.82	158.11	55.09
Sundays	171.45	60.93	166.39	60.57
Age > 30 (All days)	164.83	52.67	161.54	54.79
Age ≤ 30 (All days)	183.38	97.44	156.61	109.13
Age > 30 (Saturdays)	160.71	50.73	158.56	55.69
Age ≤ 30 (Saturdays)	169.17	89.10	139.52	82.36
Age > 30 (Sundays)	170.96	61.32	167.17	60.46
Age ≤ 30 (Sundays)	211.31	166.06	179.25	191.56
Hurricane (prep)	183.52	77.34	159.63	53.30
Hurricane (land)	162.43	59.25	146.56	70.63
Hurricane (post)	228.34	81.43	237.98	91.12
Precipitation $> 0.15in$	171.59	54.97	166.95	55.31
Precipitation $\leq 0.15in$	162.99	51.34	159.28	54.20
Wind speed $> 5m/s$	167.50	54.39	164.45	56.79
Wind speed $\leq 5m/s$	163.74	51.04	159.07	52.96
Lagged wind speed $> 5m/s$	167.40	53.99	166.34	58.66
Lagged wind speed $\leq 5m/s$	163.94	51.44	158.08	51.67
Full moon $> 1/2$	150.57	51.58	147.06	54.86
Full moon $\leq 1/2$	176.46	50.31	171.96	51.86
Unemployment $> 4.5\%$	161.95	45.00	157.93	45.82
Unemployment $\leq 4.5\%$	168.20	58.10	163.65	60.10
Open season days in sample	836		833	
Total lobster trips made	78,914		39,825	
Total choice occasions	301,924		168,707	

Note.—See Table B3.

indicators, a set of year indicators, and a set of fisherman fixed effects yields positive and significant coefficients on the Saturday and Sunday indicators.[5] If this relative dislike of weekend work is similar across all fishermen, *average* observed weekend earnings should be greater than average observed weekday earnings. This appears to be the case for Sunday (Table B5).

However, if there is heterogeneity in fishermen's dislike of weekend work and this hetero-

[5] In particular, observed earnings are roughly \$9/hr and \$21/hr higher on Saturdays and Sundays, respectively. The fact that observed Sunday earnings are greater than observed Saturday earnings is in line with the Saturday-Sunday participation differential shown in Table B3.

geneity is correlated with productivity or ability (i.e. earnings), the opposite could be true. For example, if low ability fishermen have less of a distaste for working on Saturdays than high ability fishermen, the ratio of low-to-high ability fishermen will differ by day-of-week and this larger share of low ability fishermen on Saturdays could result in lower average observed earnings despite the fact that reservation wages are higher for all fishermen. Similarly, if some low ability fishermen actually prefer to work on Saturdays, observed earnings for these fishermen will be lower on Saturdays, again reducing the overall average. Weekend labor supply preferences might vary by ability for several reasons. For example, part-time fishermen may be less able to work on weekdays due to other commitments and may also command lower earnings either due to inexperience or due to the fact that they have less flexibility over the days they can work. Similarly, fishermen in their prime are more likely to command higher earnings, but may also be more likely to have children making them less able or willing to work on weekends. A negative correlation between the percentage of trips a fisherman makes on Saturdays and Sundays and either their average per trip earnings or their earnings fixed effect, F_{wi}, corroborate this.

Younger fishermen command higher earnings. Similar Saturday-Sunday earnings patterns emerge for both young and old fishermen and this pattern is particularly strong for younger fishermen. Observed earnings are higher on days just before and just after a hurricane makes landfall. As with day-of-week earnings variation, I argue that the increase in observed earnings on days preceding hurricane activity is due to self-selection: fishermen prefer not to fish on these days and, therefore, require an earnings premium in order to participate, which is reflected by higher observed earnings. Higher observed after-hurricane earnings may be due to a combination of self-selection (participation is also much lower on these days) and an increase in lobster abundance due to favorable windy weather. Observed earnings are higher during and after rough weather when lobsters move from reefs into traps. Observed earnings are also higher on rainy days and on days surrounding the new moon. Both of these effects are presumably due to darker waters encouraging migration of lobsters into traps. Finally, earnings are lower when unemployment is higher. This could be the result of a demand response – during economic slumps, demand for lobsters decreases, reducing the price of lobsters – or due to self-selection – reservation wages are lower when unemployment is high, leading to more participation on low wage days.

Appendix C: Robustness Checks

I estimate models of labor supply for several different samples of fishermen. Samples A, B, C, and D refer to the samples described in Appendix B and Table B1. Rules 1, 2, 3, and 4 refer to the samples described in Appendix B and Table B2. For each of these eight samples, I estimate models using fishermen with Incomplete and Complete Hours Records, as defined in Appendix B. Results from these sixteen samples are shown in Table C1. For brevity, I only report estimated wage elasticities. Estimates are extremely consistent across samples.

Appendix D: Heterogeneity

To explore the effect of experience on wage elasticities, I conduct an analysis similar to that in Camerer et al. (1997). An important difference between the samples of drivers studied in Camerer et al. (1997) and the sample of fishermen studied here, however, is the length of time over which workers are observed. In Camerer et al. (1997), drivers are observed over three, eight, or twenty-one days, depending on the sample. Given the short length of time

Table C1. The Effect of Differing Sample Definitions and Participation Rules on Estimated Labor Supply Elasticities

	Incomplete Hours Records		Complete Hours Records	
Sample	Hours Elasticity	Participation Elasticity	Hours Elasticity	Participation Elasticity
	Panel A: Lobster Trip, Trapper, and Fisher Definitions			
Sample A	0.0627***	1.1341***	0.0637***	1.2476***
	(0.0109)	(0.1203)	(0.0136)	(0.1336)
Sample B	0.0638***	1.0881***	0.0662***	1.1695***
	(0.0107)	(0.1162)	(0.0133)	(0.1265)
Sample C	0.0621***	1.1414***	0.0620***	1.2556***
	(0.0109)	(0.1207)	(0.0136)	(0.1342)
Sample D	0.0636***	1.0927***	0.0652***	1.1736***
	(0.0108)	(0.1166)	(0.0133)	(0.1271)
	Panel B: Participation Rules			
Rule 1	0.0627***	1.1341***	0.0637***	1.2476***
	(0.0109)	(0.1203)	(0.0136)	(0.1336)
Rule 2	0.0627***	1.1009***	0.0637***	1.1914***
	(0.0109)	(0.1178)	(0.0136)	(0.1297)
Rule 3	0.0625***	0.8806***	0.0638***	1.0038***
	(0.0109)	(0.1071)	(0.0136)	(0.1193)
Rule 4	0.0615***	1.0534***	0.0641***	1.1332***
	(0.0109)	(0.1113)	(0.0136)	(0.1206)

NOTE.—I estimate equations 1 – 3, described in Section III.A of the main text, on each of sixteen samples. In the first panel, Rule 1 is applied to Samples A – D. In the second panel, Rules 1 – 4 are applied to Sample A. For brevity, I only report the estimated wage elasticity of daily hours (the coefficient on the imputed wage) and wage elasticity of participation (the marginal effect of the imputed wage, evaluated at covariate sample means) and the associated standard errors. Each cell reflects a separate regression.

studied, it is reasonable to assume that a driver's experience remains constant during the sample period. However, here, fishermen are observed over a twelve year period. Not only will experience grow substantially during this period, but the speed with which fishermen accrue experience will depend on how intensely they fish. So that experience can be more plausibly held constant, rather than analyze the full sample at once, I consider each fishing season separately, which results in twelve different subsamples.

Although this study begins with the 1996 lobster season, the FWC provided trip tickets dating back another ten years. I have not used these trip tickets thus far due to a paucity of price data. However, these trip tickets make it possible to construct useful experience measures for the twelve years studied here.[6] Using all available trip tickets, I construct two measures of experience based on participation. The first and most straightforward sums the number of active lobster seasons to date. Of course, this measure ignores the intensity with which individuals fish such that one year of experience need not reflect the same level of accrued experience. To incorporate this variation, a second measure sums the number of lobster trips made prior to the start of the season being studied. A caveat of this measure is that high and low experience fishermen may differ for reasons other than experience. For

[6]However, because I don't observe behavior prior to the 1986 season, experience is truncated at this date.

Table D1. Relationship Between Experience and Wage Elasticities

Experience Measure	Percentage (number) of samples for which $\hat{\sigma}_H > \hat{\sigma}_L$	Percentage (number) of samples for which $\hat{\sigma}_H \neq \hat{\sigma}_L$	Percentage (number) of samples for which $\hat{\sigma}_H > \hat{\sigma}_L$ & $\hat{\sigma}_H \neq \hat{\sigma}_L$
	Panel A: Hours Elasticity		
Cumulative years of experience			
Bottom 5% vs. Top 95%	42% (5)	17% (2)	8% (1)
Bottom 50% vs. Top 50%	33% (4)	25% (3)	8% (1)
Cumulative days of experience			
Bottom 5% vs. Top 95%	42% (5)	33% (4)	25% (3)
Bottom 50% vs. Top 50%	17% (2)	17% (2)	0% (0)
	Panel B: Participation Elasticity		
Cumulative years of experience			
Bottom 5% vs. Top 95%	50% (6)	17% (2)	17% (2)
Bottom 50% vs. Top 50%	67% (8)	0% (0)	0% (0)
Cumulative days of experience			
Bottom 5% vs. Top 95%	50% (6)	17% (2)	17% (2)
Bottom 50% vs. Top 50%	67% (8)	0% (0)	0% (0)

NOTE.—$\hat{\sigma}_H$ and $\hat{\sigma}_L$ denote high- and low-experience elasticity estimates, respectively.

example, low experience fishermen include those with low participation rates who are more likely to be part time fishermen. Such fishermen may have lower elasticities if they are more constrained by their outside opportunities – e.g. they have a typical weekday job – or they may have higher elasticities if they are less constrained by their outside opportunities and so are more able to select high wage days.

For each sample and for each measure of experience, I calculate the median level of experience and use this to split fishermen into high and low experience groups. As an alternative, I also calculate the fifth percentile of experience and use this to create a group of extremely low experience fishermen. I then re-estimate equations 1 – 3, described in Section III.A of the main text, separately for each group and for each of the twelve one-year samples. This results in twelve hours elasticity estimates and twelve participation elasticity estimates for each of the following four experience groups: (i) bottom 50%, (ii) top 50%, (iii) bottom 5%, and (iv) top 95%. To summarize results, I determine (a) the percentage of samples for which the high-experience elasticity point estimate exceeds the low-experience elasticity point estimate, (b) the percentage of samples for which the high-experience elasticity estimate is statistically different from the low-experience elasticity estimate, and (c) the percentage of samples for which both (a) and (b) hold. These statistics are shown in Table D1.

As evident from Table D1, I find no consistent evidence that fishermen respond differentially to temporary variations in the wage conditional on experience levels. Elasticities for high experience fishermen are larger than elasticities for low experience fishermen about half of the time, suggesting no meaningful relationship between elasticities and experience. Furthermore, elasticity confidence intervals ("CI") for high and low experience groups typically overlap, suggesting very little difference between the two groups.

To further explore heterogeneity in labor supply reponses, I estimate versions of equations

Table D2. Individual Heterogeneity

Relationship between individual and pooled elasticities	Hours Elasticity		Participation Elasticity	
Significantly < 0	17%	(98)	1%	(6)
Not significantly different from zero, but significantly $< \hat{\sigma}_{pooled}$	1%	(8)	0%	(0)
Significantly > 0, but significantly $< \hat{\sigma}_{pooled}$	$< 1\%$	(1)	7%	(53)
Confidence intervals overlap	74%	(428)	90%	(653)
Significantly $> \hat{\sigma}_{pooled}$	7%	(40)	2%	(14)

NOTE.—For both the hours and participation elasticity, I report the percentage (number) of individual estimates that satisfy the criteria described in the left most column.

1 – 3 separately for each fisherman. This exercise results in 575 individual hours elasticity estimates and 726 individual participation elasticity estimates.[7] To determine the level of heterogeneity present, I construct 95% CIs for each individual estimate and compare these with the 95% CI for the pooled estimate. I summarize these comparisons in Table D2. The first row reports the percentage (number) of individual elasticity estimates that are significantly less than 0. The second row reports the percentage (number) of estimates that are not significantly less than zero, but that have CIs that lie to the left of the pooled CI. The third row reports the percentage (number) of estimates that are significantly greater than zero, but that still have CIs that lie to the left of the pooled CI. The fourth row reports the percentage (number) of estimates that have CIs that overlap. Finally, the fifth row reports the percentage (number) of estimates that have CIs that lie to the right of the pooled CI.

By and large, I find little heterogeneity in wage elasticities: the vast majority of individuals – 74% for hours and 90% for participation – have elasticity CIs that overlap with the pooled CI. However, 17% of all hours elasticities are, in fact, negative and significant. Although a small group, these findings may be indicative of reference dependence for at least a subset of fishermen.

[7]For a variety of reasons, including multicollinearity and non-convergence, models for some fishermen could not be estimated.