Summary stats on mexican subsidy, landings, and effort data

Disclaimer: I'm still getting to know and clean the data

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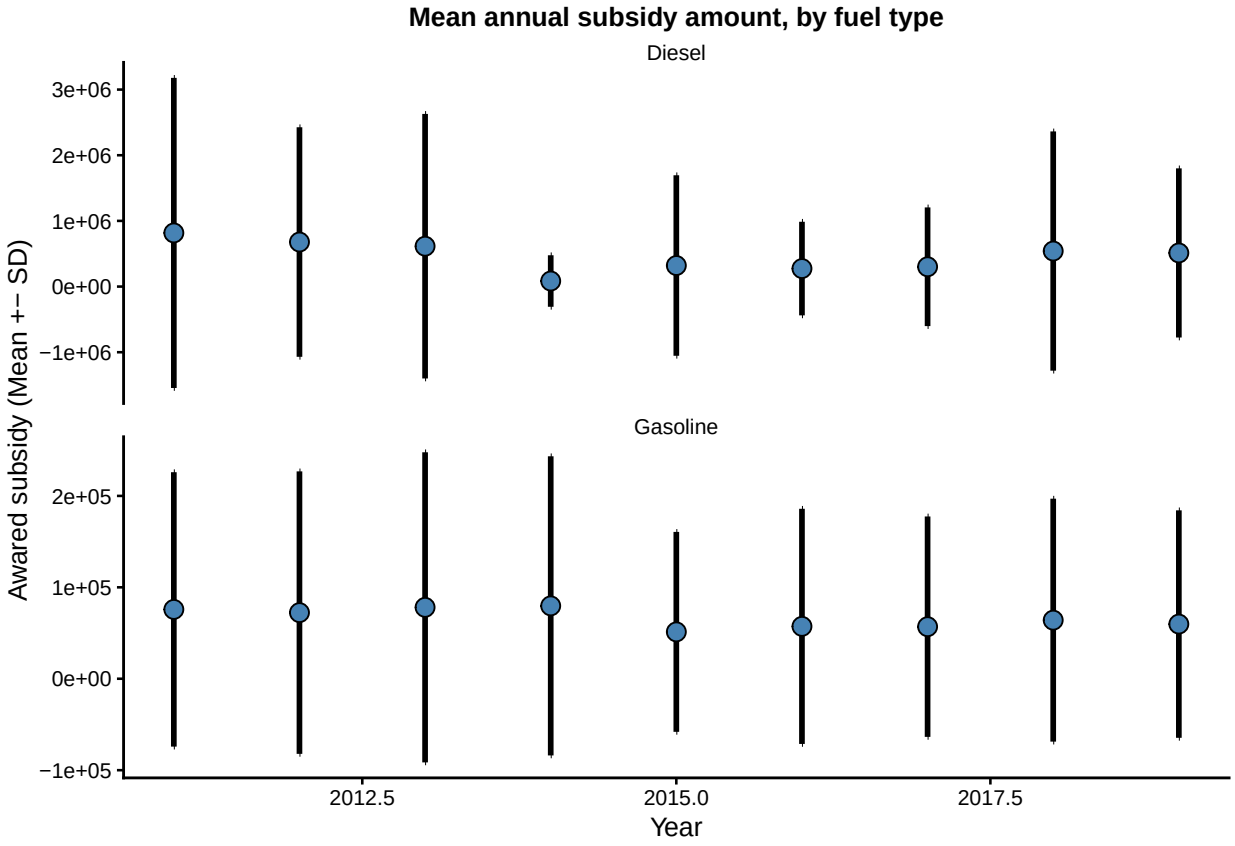
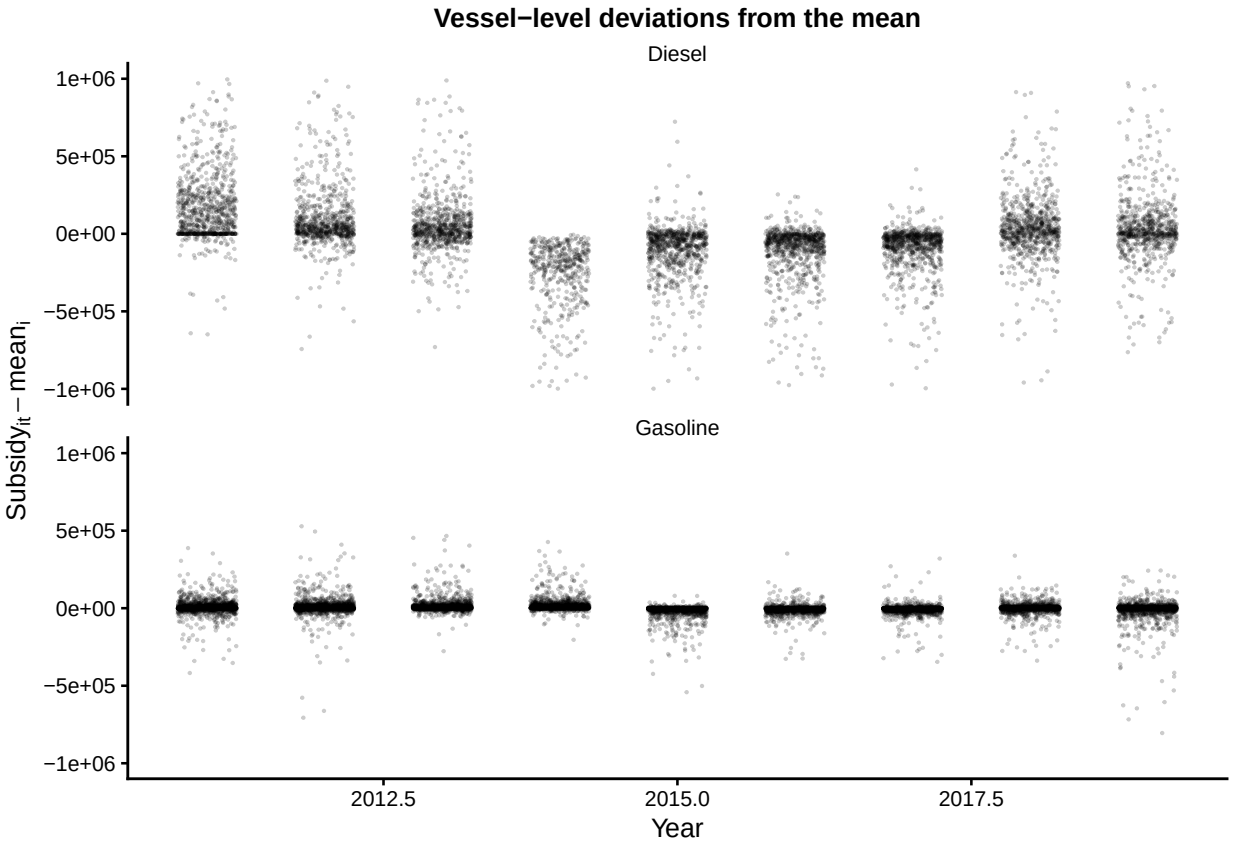
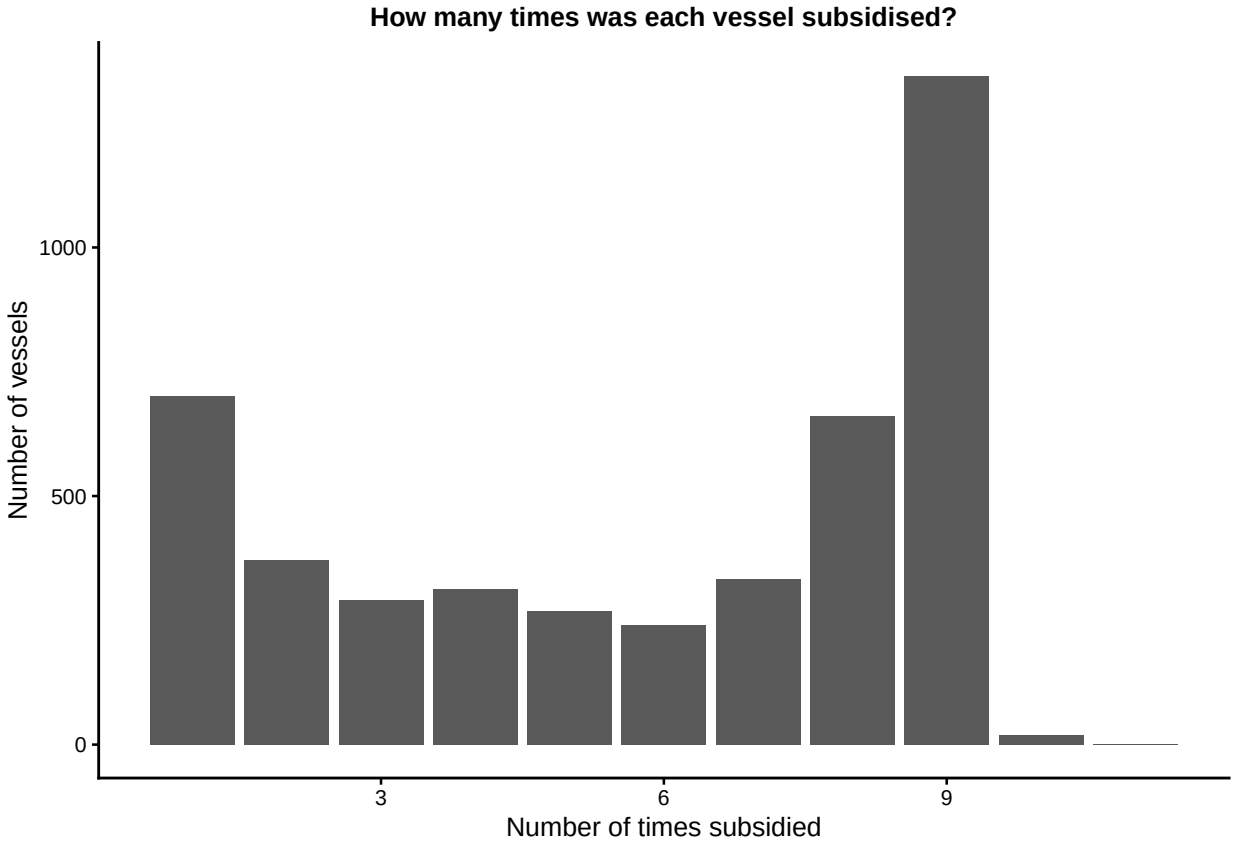
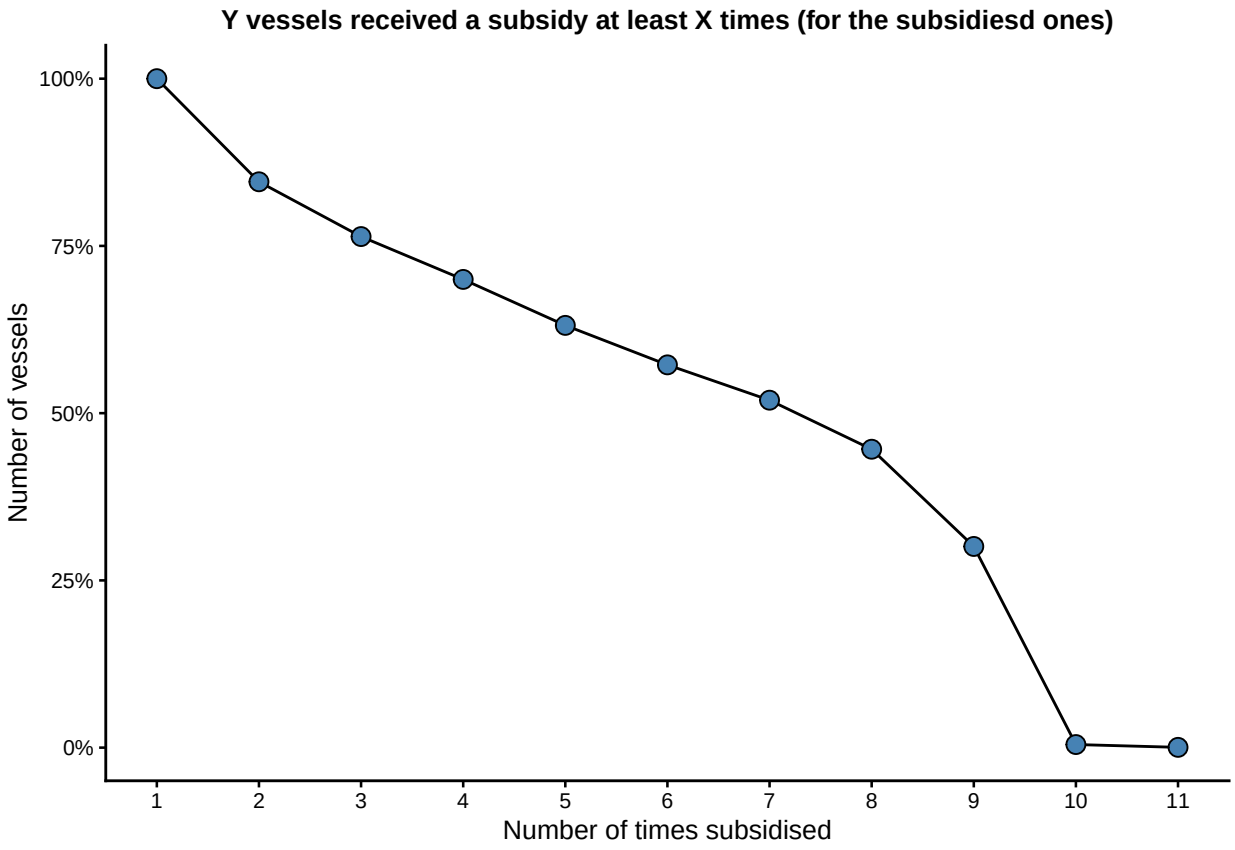
Subsidy data

There are 4596 "Economic units" (cooperatives, individuals, companies) that received a fuel subsidy at least once between 2011 and 2019.



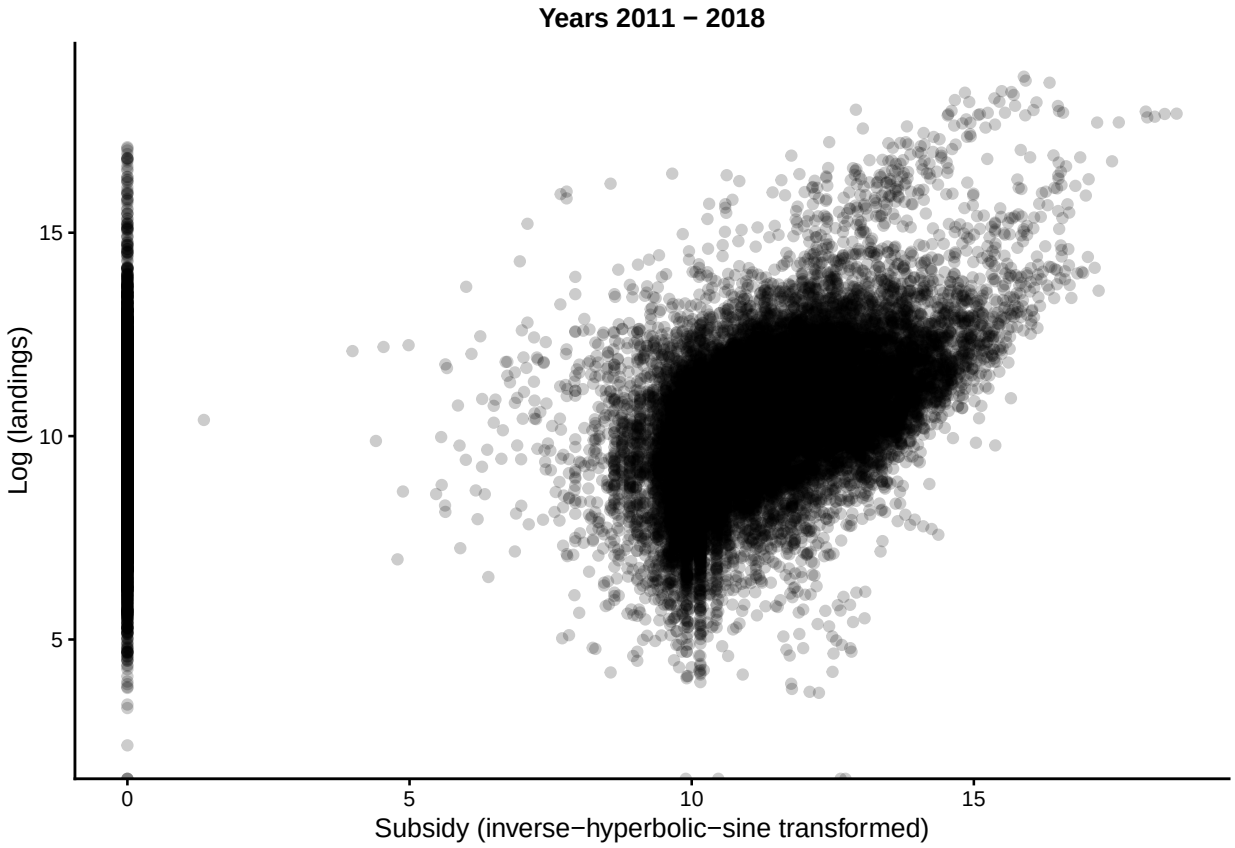

Vessel−level deviations from the mean
Diesel
Gasoline
1e+06
5e+05
0e+00
−5e+05
−1e+06
Subsidy$_{it}$ − mean$_i$
2012.5
2015.0
2017.5
Year


How many times was each vessel subsidised?
1000
500
0
Number of vessels
3
6
9
Number of times subsidied



Landings data

A quick and dirty match says there are 27272 observations with a match and 14467 observations without a match. That is a match of 65.3393709%.



Some regressions

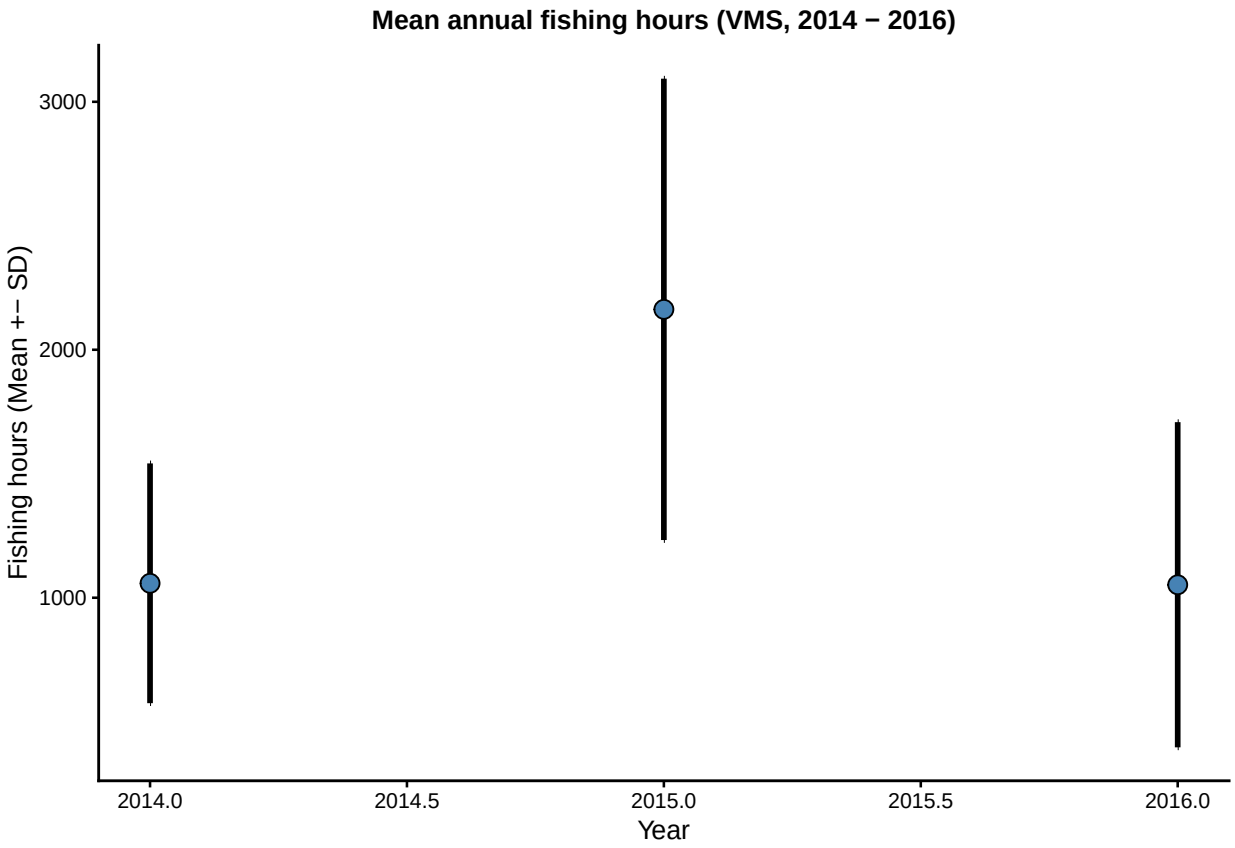
$$log_{10}(L_{i,t}) = \alpha + \beta_1 \text{ihs}(S_{i,t}) + \gamma_t Y_t + \phi_i RNPA + \epsilon_{it}$$

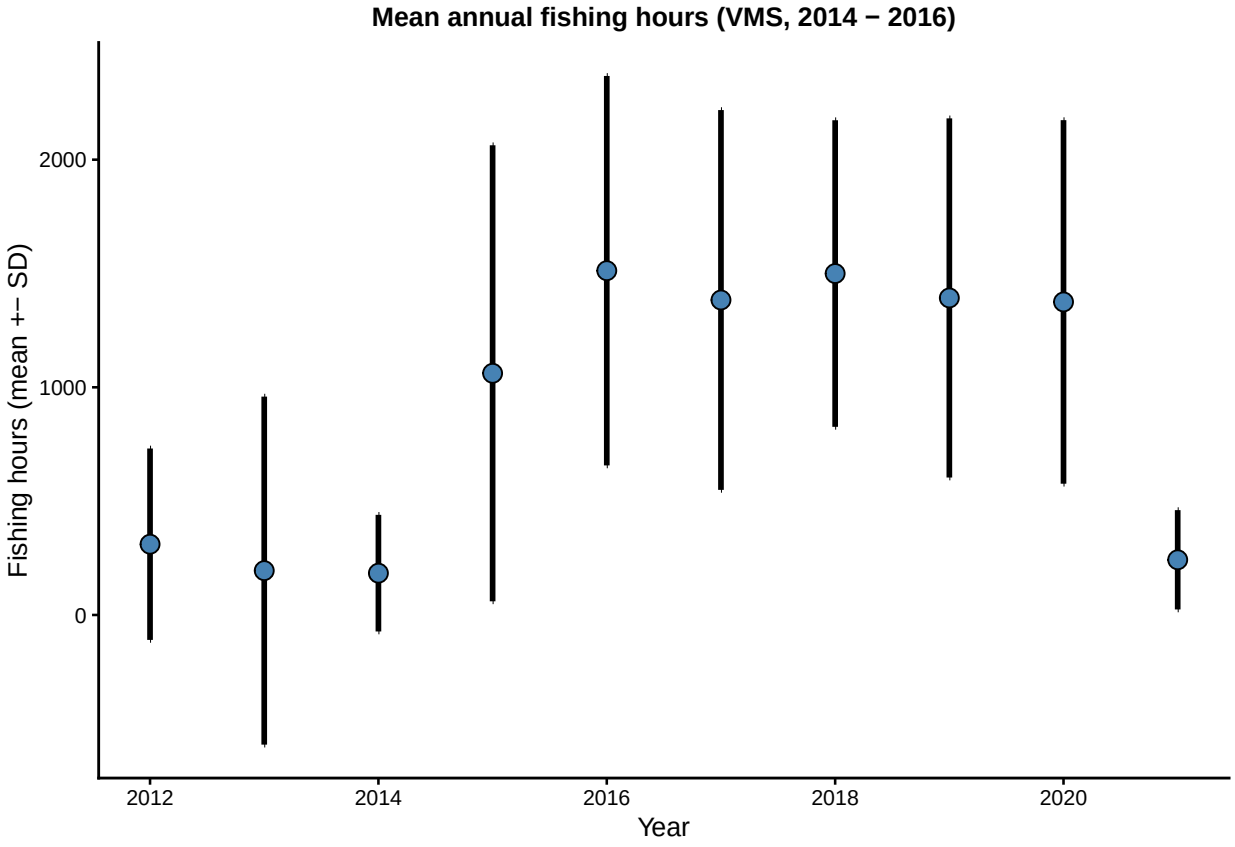
	Model 1
hs(subsidy_amount)	0.004 (0.010)
fuel_typeGasoline	0.014 (0.021)
Num.Obs.	21227
R2	0.867
FE: as.factor(rnpa)	X
FE: as.factor(year)	X
Std. errors	Clustered (as.factor(year))

* p < 0.1, ** p < 0.05, *** p < 0.01

Effort data

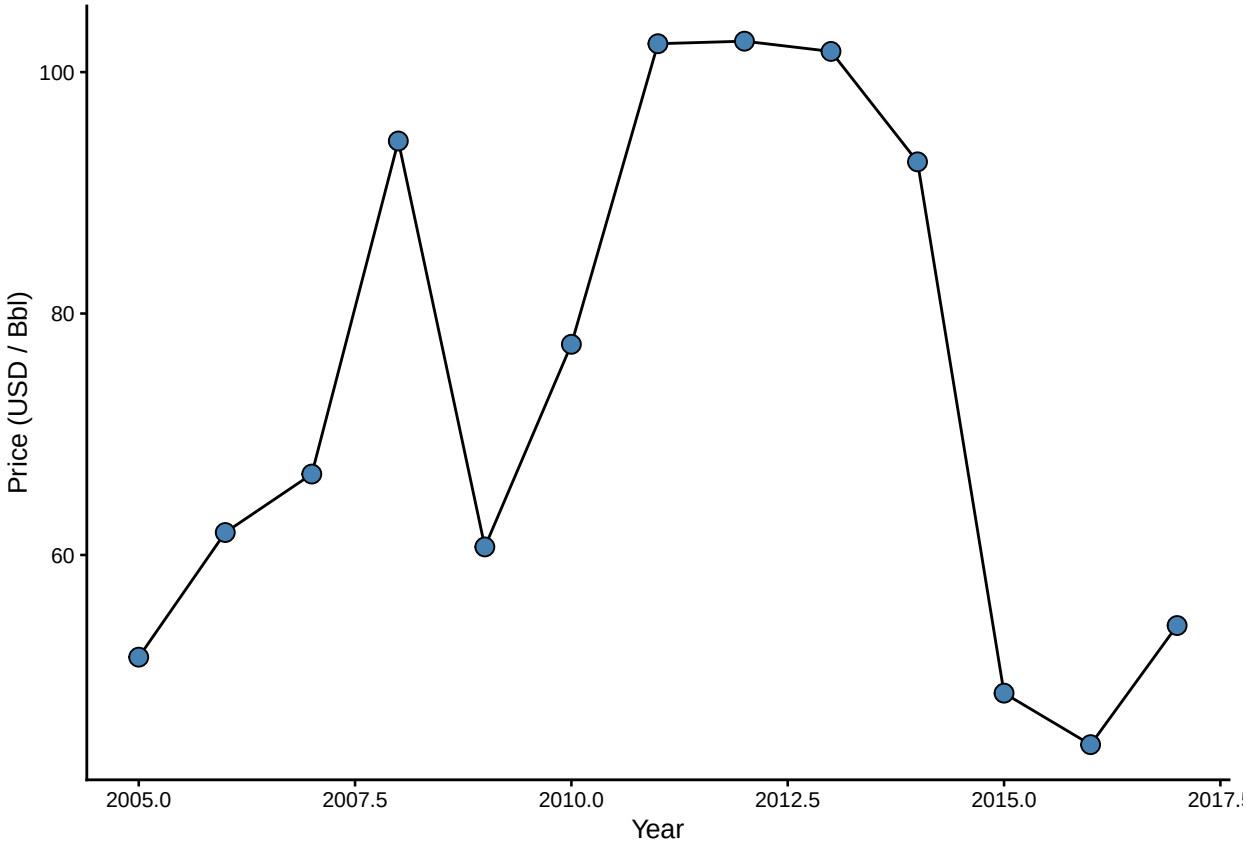
There are 0 vessels in the VMS dataset (1 ping per hour). There are 88 vessels in the AIS dataset (Many more pings).

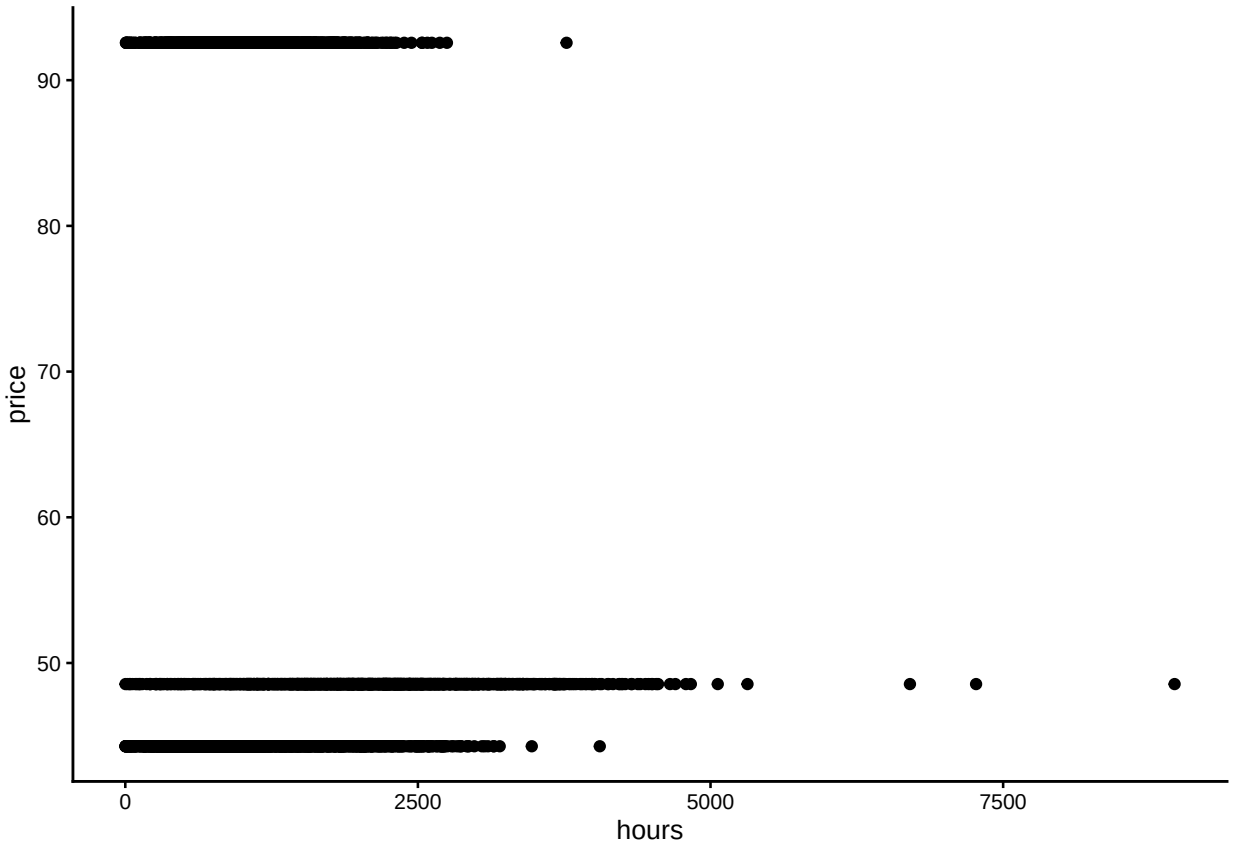

Mean annual fishing hours (VMS, 2014 − 2016)
Fishing hours (Mean +− SD)
3000
2000
1000
2014.0
2014.5
2015.0
2015.5
2016.0
Year

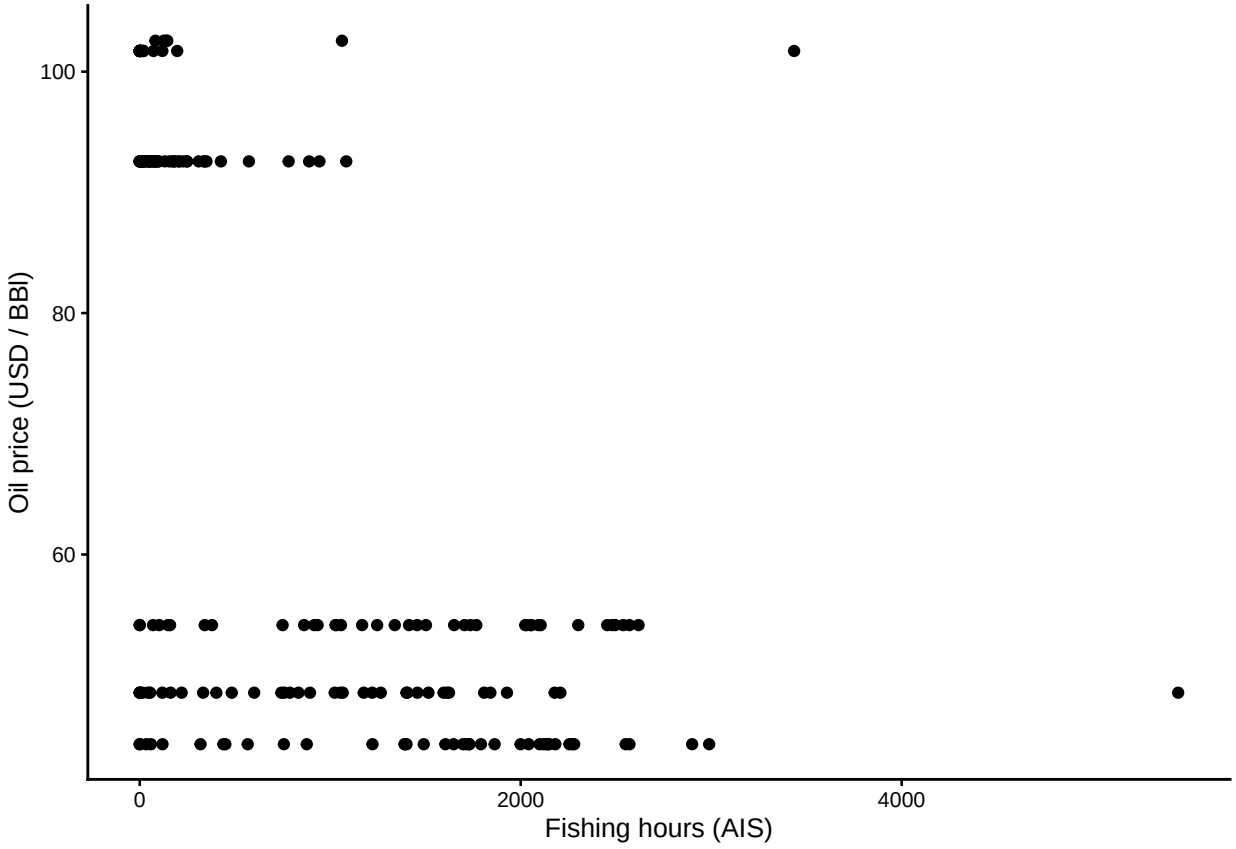

Mean annual fishing hours (VMS, 2014 − 2016)
Fishing hours (mean +− SD)
2000
1000
0
2012
2014
2016
2018
2020
Year

Fuel prices

I have not been able to find fuel prices per year, so I'm using crude oil prices from Mexican oil production. That will be fixed evenutally.




price
90
80
70
60
50
0
2500
5000
7500
hours


Oil price (USD / BBl)
100
80
60
0
2000
4000
Fishing hours (AIS)

Preview of subsidy data

```
## # A tibble: 20 x 12
##     year   rnpa fishing_type subsidy_amount fuel_type target n_large_scale_v~
##    <int>  <dbl> <chr>                 <dbl> <chr>     <chr>              <int>
##  1  2011 4.08e7 Small scale               0 <NA>      <NA>                  NA
##  2  2011 4.20e7 Small scale               0 <NA>      <NA>                  NA
##  3  2011 2.03e8 Large scale           11780 Diesel    <NA>                   3
##  4  2011 2.03e8 Small scale           11200 Gasoline  <NA>                   3
##  5  2011 2.03e8 Small scale          204974 Gasoline  <NA>                   0
##  6  2011 2.03e8 Large scale          480000 Diesel    <NA>                   1
##  7  2011 2.03e8 Large scale          454200 Diesel    <NA>                   4
##  8  2011 2.03e8 Large scale         8864176 Diesel    <NA>                  NA
##  9  2011 2.03e8 Large scale          450000 Diesel    <NA>                   1
## 10  2011 2.03e8 Large scale         3785320 Diesel    <NA>                  NA
## 11  2011 2.03e8 Large scale          710622 Diesel    <NA>                   2
## 12  2011 2.03e8 Large scale               0 <NA>      <NA>                  NA
## 13  2011 2.03e8 Large scale          320000 Diesel    <NA>                   1
## 14  2011 2.03e8 Large scale          451496 Diesel    <NA>                   2
## 15  2011 2.03e8 Small scale           21000 Gasoline  <NA>                   0
## 16  2011 2.03e8 Large scale         2400000 Diesel    <NA>                  NA
## 17  2011 2.03e8 Large scale         2786870 Diesel    <NA>                  NA
## 18  2011 2.03e8 Large scale           60000 Diesel    <NA>                  NA
## 19  2011 2.03e8 Large scale           64660 Diesel    <NA>                   2
## 20  2011 2.03e8 Large scale          400000 Diesel    <NA>                   2
## # ... with 5 more variables: n_small_scale_vessels <int>, zone <chr>,
## #   state <chr>, municipality <chr>, location <chr>
```

We actually have these at the species-level but I'm combining it here. We also have the exvessel price of these landings.

```
## # A tibble: 20 x 3
##    ano_corte rnpa_unidad_economica landings
##        <int>                 <dbl>    <dbl>
##  1      2000                     0   758821
##  2      2003                     0    74345
##  3      2005                     0    84389
##  4      2007                     0    26880
##  5      2014                     1     4697
##  6      2015                     1     1650
##  7      2014                     5     3065
##  8      2015                     5     2010
##  9      2015             100000000    55520
## 10      2005             100000017      458
## 11      2010             100000025    27010
## 12      2011             100000025     9320
## 13      2012             100000025     2570
## 14      2013             100000025     7420
## 15      2014             100000025     7380
## 16      2016             100000025    23900
## 17      2017             100000025    20500
## 18      2018             100000025    14750
## 19      2010             100000029     3150
## 20      2011             100000029      300
```

VMS data

```
## # A tibble: 20 x 4
##    ssvid          year rnp   hours
##    <chr>         <int> <chr> <dbl>
##  1 2804254023-7  2016 71019  1753
##  2 0402296223-2  2014 63669  1081
##  3 2301446823-9  2014 99671  1976
##  4 2804014023-3  2014 28381  1178
##  5 2804015223-8  2014 64493  2073
##  6 2804027923-9  2014 64394  1786
##  7 3001514323-1  2014 8409    748
##  8 2601022923-3  2014 50203  1878
##  9 2702327423-4  2014 69963  1402
## 10 3101134123-8  2014 33639   792
## 11 0201002523-7  2014 16105  1157
## 12 2003001423-6  2014 13201   489
## 13 2003005823-3  2014 216     594
## 14 2003045720-5  2014 2741   1315
## 15 2503052823-1  2014 15099  1354
## 16 2503056123-5  2014 60879   734
## 17 2503056623-4  2014 11817  1508
## 18 2804016523-6  2014 39792   721
## 19 0402001023-3  2015 68155  2990
## 20 2804027823-9  2015 71175  3066
```

AIS data

```
## # A tibble: 20 x 3
##    ssvid      year fishing_hours
##    <chr>     <int>         <dbl>
##  1 225983774  2015           0
##  2 345140500  2014        1084.
##  3 345080035  2018        2083.
##  4 345860501  2013          15.9
##  5 345035689  2018        1334.
##  6 345861978  2013           0
##  7 345080024  2016        1697.
##  8 345140011  2018        1909.
##  9 345080034  2016        2281.
## 10 123450020  2013         119.
## 11 345080029  2016        1999.
## 12 345080098  2020         290.
## 13 345140016  2020        1243.
## 14 123450100  2021         285.
## 15 345882880  2014          18.0
## 16 345905783  2014          16.5
## 17 345080026  2020        1324.
## 18 345080033  2014           0
## 19 345861978  2014         132.
## 20 345904851  2014          46.3
```