```
Log file of replicating the results in the main text

Executing the Benchmark case
>
Equation solved. The sum of squared function values, r = 4.485807e-24, is less than
sqrt(options.FunctionTolerance) = 1.000000e-04. The relative norm of the gradient of
r,
9.471851e-12, is less than options.OptimalityTolerance = 1.000000e-08.

Optimization Metric                                          Options
relative norm(grad r) =   9.47e-12             OptimalityTolerance =   1e-08
(selected)
r =   4.49e-24                               sqrt(FunctionTolerance) =  1.0e-04
(selected)

gamma = 0.93
Firm Size: Model vs Data
    0.5090    0.2287    0.1097    0.1263    0.0263
    0.4698    0.2797    0.1290    0.1020    0.0195

Employment Size: Model vs Data
    0.1070    0.1343    0.1447    0.4086    0.2055
    0.0864    0.1611    0.1655    0.3501    0.2369

Average Tax =
    0.1297

ke to yc
    0.0236

clean share
    0.5777

K/Y ratio
    1.6558

Executing the No-tax case
>
Equation solved. The sum of squared function values, r = 7.285860e-18, is less than
sqrt(options.FunctionTolerance) = 1.000000e-04. The relative norm of the gradient of
r,
7.626462e-09, is less than options.OptimalityTolerance = 1.000000e-08.

Optimization Metric                                          Options
relative norm(grad r) =   7.63e-09             OptimalityTolerance =   1e-08
(selected)
r =   7.29e-18                               sqrt(FunctionTolerance) =  1.0e-04
(selected)

gamma = 0.93
```

```
Firm Size: Model vs Data
    0.3599    0.2094    0.1256    0.2426    0.0625
    0.4698    0.2797    0.1290    0.1020    0.0195

Employment Size: Model vs Data
    0.0322    0.0521    0.0696    0.4202    0.4259
    0.0864    0.1611    0.1655    0.3501    0.2369

Average Tax =
     0

ke to yc
    0.0200

clean share
    0.8561

K/Y ratio
    2.0598

Executing the Regulation case
>
Equation solved. The sum of squared function values, r = 6.849363e-24, is less than
sqrt(options.FunctionTolerance) = 1.000000e-04. The relative norm of the gradient of
r,
1.171334e-11, is less than options.OptimalityTolerance = 1.000000e-08.

Optimization Metric                                        Options
relative norm(grad r) =   1.17e-11              OptimalityTolerance =   1e-08
(selected)
r =   6.85e-24                                sqrt(FunctionTolerance) =  1.0e-04
(selected)

gamma = 0.93
Firm Size: Model vs Data
    0.4993    0.2331    0.1118    0.1290    0.0267
    0.4698    0.2797    0.1290    0.1020    0.0195

Employment Size: Model vs Data
    0.1041    0.1345    0.1449    0.4105    0.2061
    0.0864    0.1611    0.1655    0.3501    0.2369

Average Tax =
    0.1306

ke to yc
    0.0361

clean share
    0.8510
```

```
K/Y ratio
    1.6559

Executing the Flat-tax case
>
Equation solved. The sum of squared function values, r = 1.363218e-20, is less than
sqrt(options.FunctionTolerance) = 1.000000e-04. The relative norm of the gradient of
r,
4.852707e-10, is less than options.OptimalityTolerance = 1.000000e-08.

Optimization Metric                                        Options
relative norm(grad r) =   4.85e-10              OptimalityTolerance =   1e-08
(selected)
r =   1.36e-20                               sqrt(FunctionTolerance) =  1.0e-04
(selected)

gamma = 0.93
Firm Size: Model vs Data
    0.3599    0.2094    0.1256    0.2426    0.0625
    0.4698    0.2797    0.1290    0.1020    0.0195

Employment Size: Model vs Data
    0.0322    0.0521    0.0696    0.4202    0.4259
    0.0864    0.1611    0.1655    0.3501    0.2369

Average Tax =
    0.1755

ke to yc
    0.0171

clean share
    0.7334

K/Y ratio
    1.6985

======================================================================
Print Results for the Benchmark
======================================================================
                   Table 4: Aggregate Impacts
======================================================================
                      Polluting                   Non-polluting
----------------------------------------------------------------------
Aggregate Output      4.394794                     4.470991
Aggregate Capital     7.295511                     7.398675
Aggregate Consumption 3.717947
Output per Worker     4.548950                     4.536514
Output per Firm       272.831902                  236.704029
```

```
Average Productivity  107095.981302          91502.148179
------------------------------------------------------------------
Number of Firms       0.016108                 0.018889
Mean Size             59.976896                52.177513
Median Size           23.674467                18.608131
------------------------------------------------------------------
Aggregate Pollution   0.008910
Aggregate Intensity   0.002027
Clean Share           0.577732
==================================================================
==================================================================
                  Table 5: Distributional Impacts
==================================================================
Polluting         0.027869    0.042601    0.074451     0.16805     0.68703
Non-Polluting     0.024264    0.037843    0.066528     0.15386      0.7175
==================================================================

Print Results for the No-tax case
==================================================================
                   Table 4: Aggregate Impacts
==================================================================
                     Polluting                 Non-polluting
------------------------------------------------------------------
Aggregate Output      5.764431                   5.795189
Aggregate Capital     11.895902                   11.931272
Aggregate Consumption 4.596618
Output per Worker     5.833962                   5.833962
Output per Firm       812.011289                738.169576
Average Productivity  236935.712435           215389.535454
------------------------------------------------------------------
Number of Firms       0.007099                   0.007851
Mean Size             139.186929                 126.529715
Median Size           43.089730                 34.310304
------------------------------------------------------------------
Aggregate Pollution   0.006831
Aggregate Intensity   0.001185
Clean Share           0.856050
==================================================================
==================================================================
                  Table 5: Distributional Impacts
==================================================================
Polluting         0.015288     0.02893    0.064635     0.18245     0.70869
Non-Polluting     0.012972    0.024912    0.056764     0.16965      0.7357
==================================================================

Print Results for the Regulation case
==================================================================
                   Table 4: Aggregate Impacts
==================================================================
                     Polluting                 Non-polluting
```

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------------------------------------------------------------------
Aggregate Output      4.350511                    4.483445
Aggregate Capital     7.222504                    7.419285
Aggregate Consumption 3.718865
Output per Worker     4.555633                    4.534460
Output per Firm       300.578550                237.363393
Average Productivity  118996.476425           91502.148179
------------------------------------------------------------------
Number of Firms       0.014474                    0.018889
Mean Size             65.979532                  52.346558
Median Size           27.883871                  18.668418
------------------------------------------------------------------
Aggregate Pollution   0.007647
Aggregate Intensity   0.001758
Clean Share           0.850999
==================================================================
==================================================================
                  Table 5: Distributional Impacts
==================================================================
Polluting         0.030212    0.046303    0.080107     0.17792     0.66545
Non-Polluting     0.024264    0.037843    0.066528     0.15386      0.7175
==================================================================

Print Results for the Flat Tax
==================================================================
                   Table 4: Aggregate Impacts
==================================================================
                      Polluting                  Non-polluting
------------------------------------------------------------------
Aggregate Output      4.752774                    4.778134
Aggregate Capital     8.091781                    8.110882
Aggregate Consumption 3.962355
Output per Worker     4.810102                    4.810102
Output per Firm       669.503306                608.620814
Average Productivity  236935.712435           215389.535454
------------------------------------------------------------------
Number of Firms       0.007099                    0.007851
Mean Size             139.186929                  126.529714
Median Size           43.089730                  34.310304
------------------------------------------------------------------
Aggregate Pollution   0.006241
Aggregate Intensity   0.001313
Clean Share           0.733354
==================================================================
==================================================================
                  Table 5: Distributional Impacts
==================================================================
Polluting         0.015288     0.02893    0.064635     0.18245     0.70869
Non-Polluting     0.012972    0.024912    0.056764     0.16965      0.7357
==================================================================
```

Convert the raw results to the the tables in the paper

Table 5: Aggregate Impacts

| | Polluting | | | Non-polluting | | |
|---|---|---|---|---|---|---|
| Statistics | Benchmark | (i) | (ii) | Benchmark | (i) | (ii) |
| Output | 100 | 131.16 | 98.99 | 100 | 129.62 | 100.28 |
| Capital | 100 | 163.06 | 99.00 | 100 | 161.26 | 100.28 |
| Consumption | 100 | 123.63 | 100.02 | 100 | 123.63 | 100.02 |
| Y/Worker | 100 | 128.25 | 100.15 | 100 | 128.60 | 99.95 |
| Y/Firm | 100 | 297.62 | 110.17 | 100 | 311.85 | 100.28 |
| Avg TFP | 100 | 221.24 | 111.11 | 100 | 235.39 | 100.00 |
| Yshare | 19.73 | 19.91 | 19.52 | 80.27 | 80.09 | 80.48 |
| #firms | 100 | 44.07 | 89.86 | 100 | 41.56 | 100.00 |
| Mean Size | 59.98 | 139.19 | 65.98 | 52.18 | 126.53 | 52.35 |
| Median Size | 23.67 | 43.09 | 27.88 | 18.61 | 34.31 | 18.67 |
| Pollution | 100 | 81.66 | 90.60 | | | |
| Intensity | 100 | 62.27 | 91.56 | | | |
| Clean Share | 57.77 | 85.61 | 85.10 | | | |
| Regulation | 23.00 | 23.00 | 35.50 | | | |

Table 6: Distributional Imapcts

| | QU1 | QU2 | QU3 | QU4 | QU5 |
|---|---|---|---|---|---|
| Polluting Sector: | | | | | |
| Benchmark | 2.79 | 4.26 | 7.45 | 16.81 | 68.70 |
| Case (i) | 1.53 | 2.89 | 6.46 | 18.25 | 70.87 |
| Case (ii) | 3.02 | 4.63 | 8.01 | 17.79 | 66.55 |
| Non-Polluting Sector: | | | | | |
| Benchmark | 2.42 | 3.78 | 6.65 | 15.39 | 71.75 |
| Case (i) | 1.30 | 2.49 | 5.68 | 16.97 | 73.57 |
| Case (ii) | 2.42 | 3.78 | 6.65 | 15.39 | 71.75 |

Table 7: Flat Tax

| | Polluting | | Non-polluting | |
|---|---|---|---|---|

| Statistics | Benchmark | (i) | Benchmark | (i) |
|---|---|---|---|---|
| Output | 100 | 108.15 | 100 | 106.87 |
| Capital | 100 | 110.91 | 100 | 109.63 |
| Consumption | 100 | 106.57 | 100 | 106.57 |
| Y/Worker | 100 | 105.74 | 100 | 106.03 |
| Y/Firm | 100 | 245.39 | 100 | 257.12 |
| Avg TFP | 100 | 221.24 | 100 | 235.39 |
| Yshare | 19.73 | 19.91 | 80.27 | 80.09 |
| #firms | 100 | 44.07 | 100 | 41.56 |
| Mean Size | 59.98 | 139.19 | 52.18 | 126.53 |
| Median Size | 23.67 | 43.09 | 18.61 | 34.31 |
| Pollution | 100 | 73.27 | | |
| Intensity | 100 | 67.78 | | |
| Clean Share | 57.77 | 73.33 | | |
| Regulation | 23.00 | 23.30 | | |