From 3 to 15: Milestones, dead ends, prospects. A subjective review of Stata's history

Ulrich Kohler
ukohler@uni-potsdam.de

University of Potsdam
Faculty for Economics and Social Sciences

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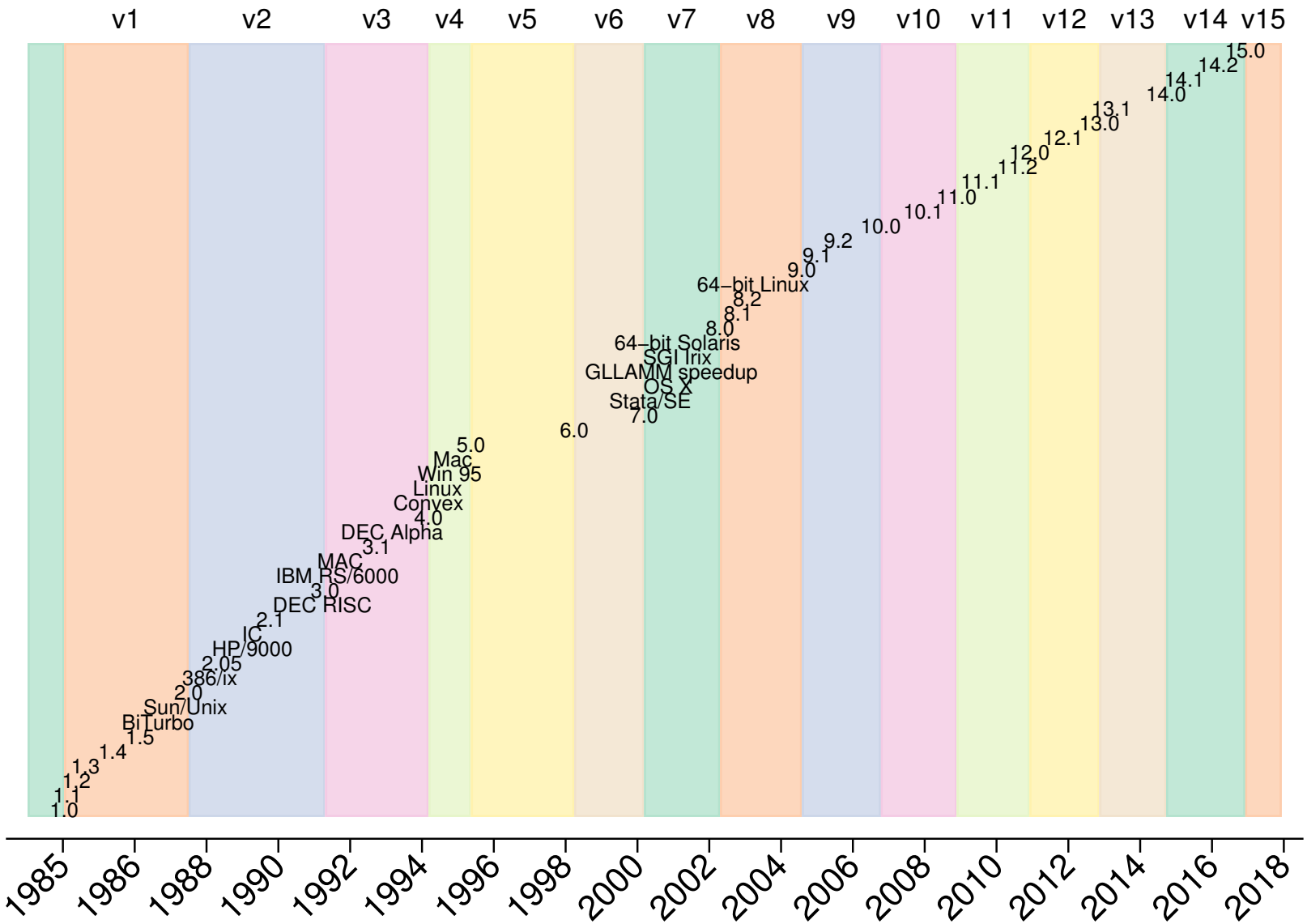
University of Konstanz, Germany

Inhalt

Versions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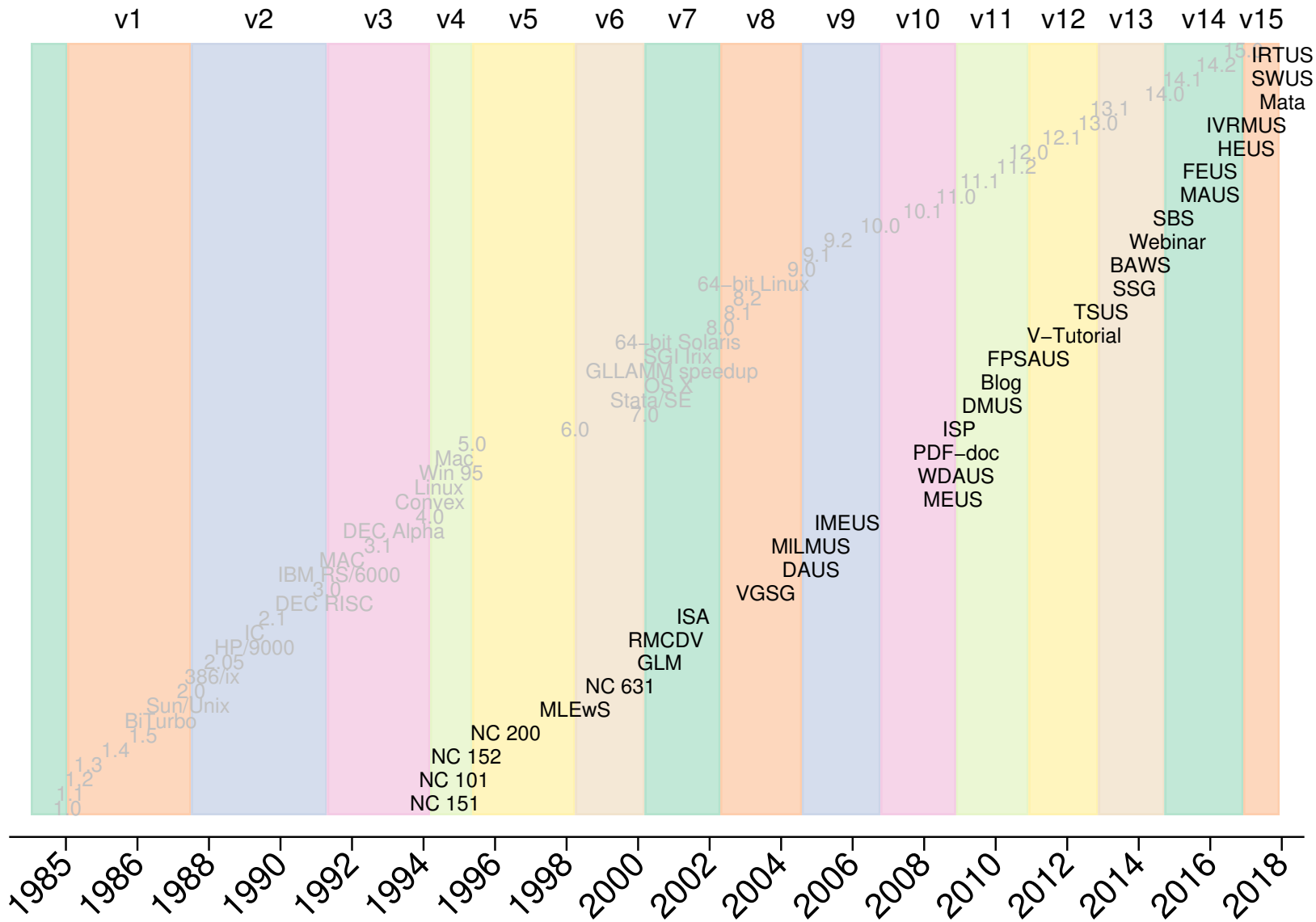
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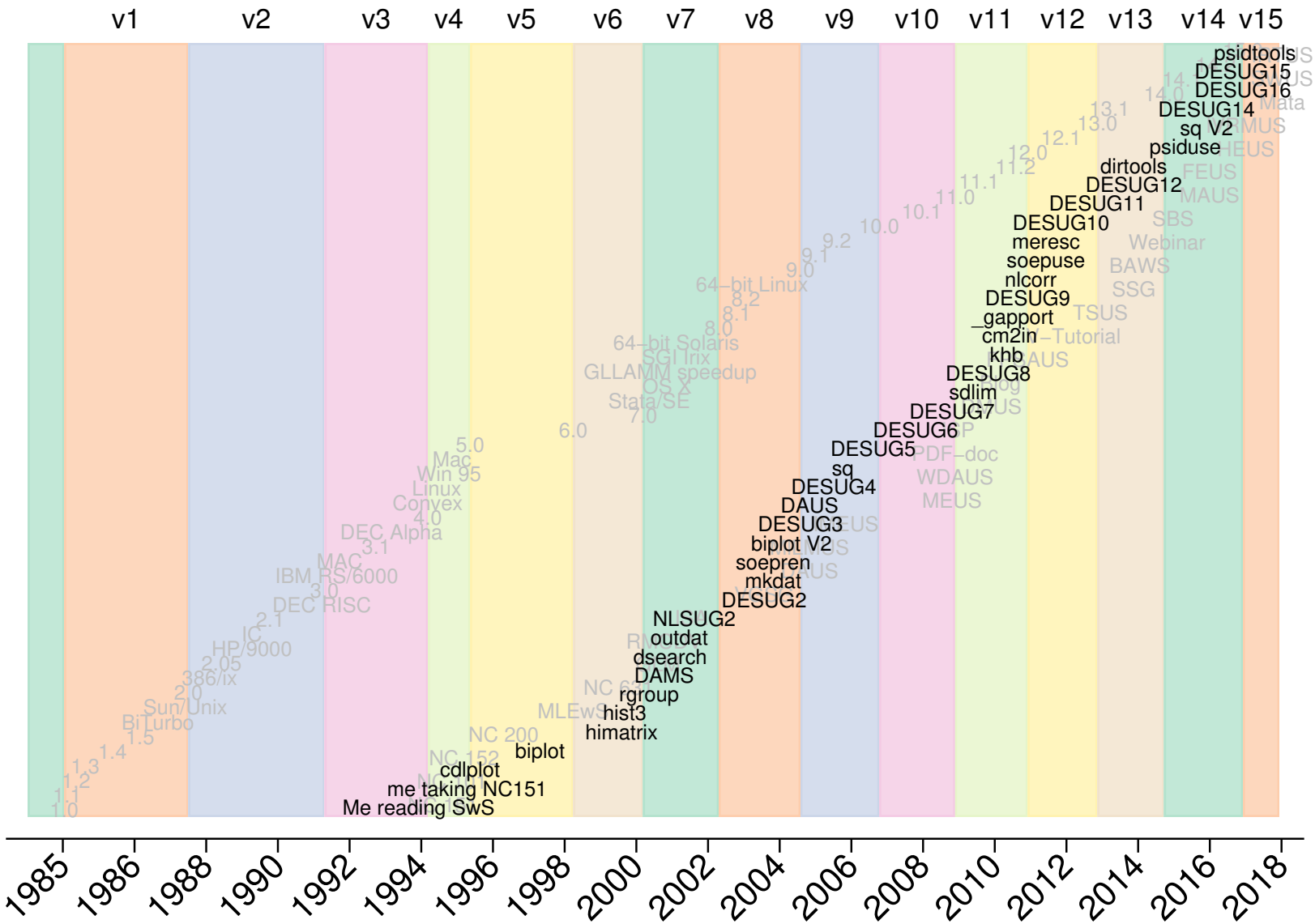
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Plan of attack

Subjectively picking out

- milestones of development
- dead ends

to learn something on prospects.

Of course . . .

. . . any statements made here are just personal views. Others have different views. At best, my views are an inspiration for the wishes and grumbles session at the end of the meeting.

Related

- Cox (2005)
- `. help whatsnew#to#`
- `. ssc hot, author(`*name*`) n(#)`

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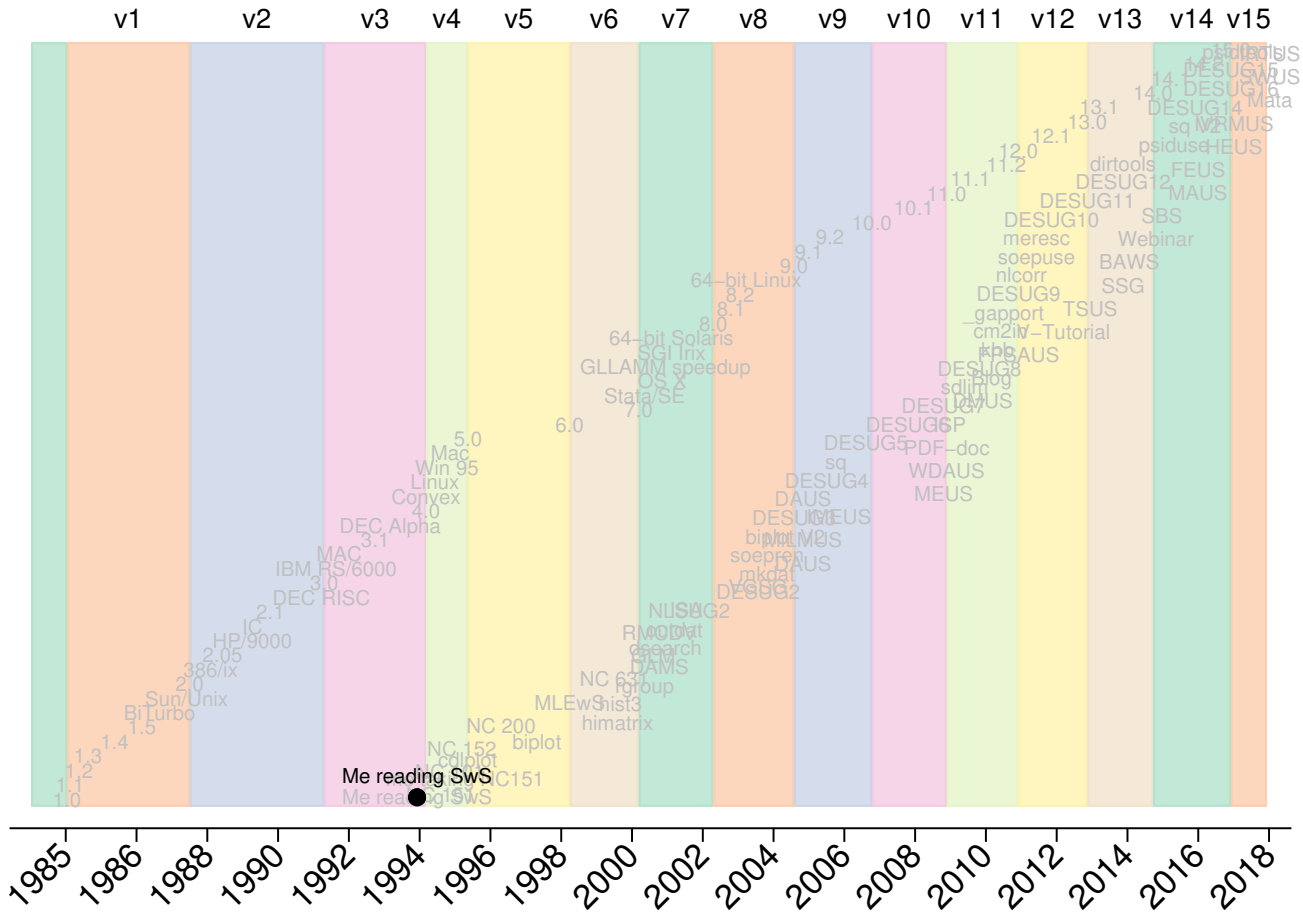
Me reading “Statistics with Stata”



Why did I became a Stata user after reading SwS?

Why Stata?

Command line interface

```
.  use ../downloaded/data1, clear
.  reg incomeR age yedu income
```

Models

```
.  mlogit lsat age yedu income
```

Speed

```
.  set rmsg on
.  mlogit rep78 foreign
r; t=0.04 14:54:11
```

Humor

endless loop → see "loop, endless"

...

loop, endless → see "endless loop"

Support

```
From:  "William Gould" <wgould@stata.com>
To:  statalist@hsphsun2.harvard.edu
Subject:Re:  statalist:  iweights and regress
Date:  Fri, 30 Jan 1998 10:11:57 -0600

xyz <xyz@abc.de> asked for a clarification on iweights.  Stay
away from them, I say, because they will invariably surprise
you.  Let me explain:...
```

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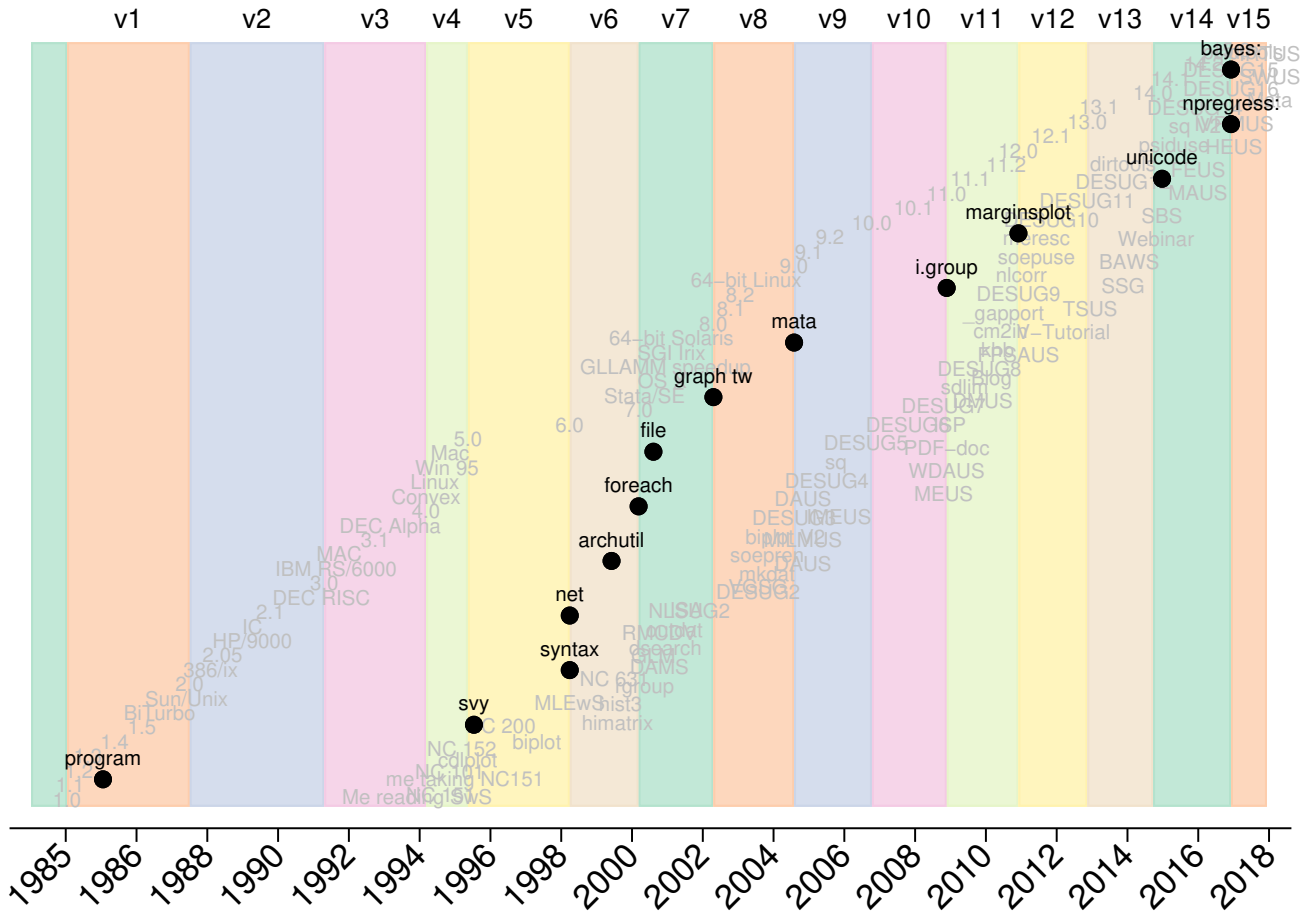
My 14 favorites



I'll give some justifications for these choices.

Statistical commands

`svy` Describers (like me) need to respect the compexity of samples – especially weights.

`marginsplot` Makes understanding complicated models easy

```
. regress income i.sex##i.emp##c.age##c.age
. margins, at(age=(20(5)80) emp=(1,2,3) sex=(1,2))
. marginsplot, by(emp)
```

`npregress` If you do not believe in homogenous treatment effects, this is for you . . .

`bayes:` In my heart, I am Bayesian. `bayesmh` were introduced in Stata 14, but Stata 15's bayes-prefix makes Bayesian analysis (syntactically) easy

General usability

`foreach/forvalues` By-by endless loops, and by-by clumpsy `for`.

`graph twoway` A command and a graphics programming language at the same time. Powerful and simple (but sometimes we want it even more powerful and much simpler at the same time.)

`fvvarlist` Factor-variable notation lets you specify complicated models. Use `marginsplot` to interpret them.

unicode America first? Perhaps, but American alone?

```
. display "њет"
њет
```

Programmer commands

`program` Stata wouldn't be Stata without `program`

```
. program hello
. display "hello, world"
. end
```

`syntax` Parsing made easy

```
. syntax [varlist] [if] [in]
```

`file` , the core of

```
. esttab
. psiduse
```

`mata` Matrix calculations made easy

```
: b = invsym(X'X)*X'y
```

Other

`net` Stata became Web-aware in 1998. It turned out to be a game changer.

`ssc` the command formerly known as `archutil` made usage of user-written programs easy:

```
. ssc hot
. ssc install estout
```

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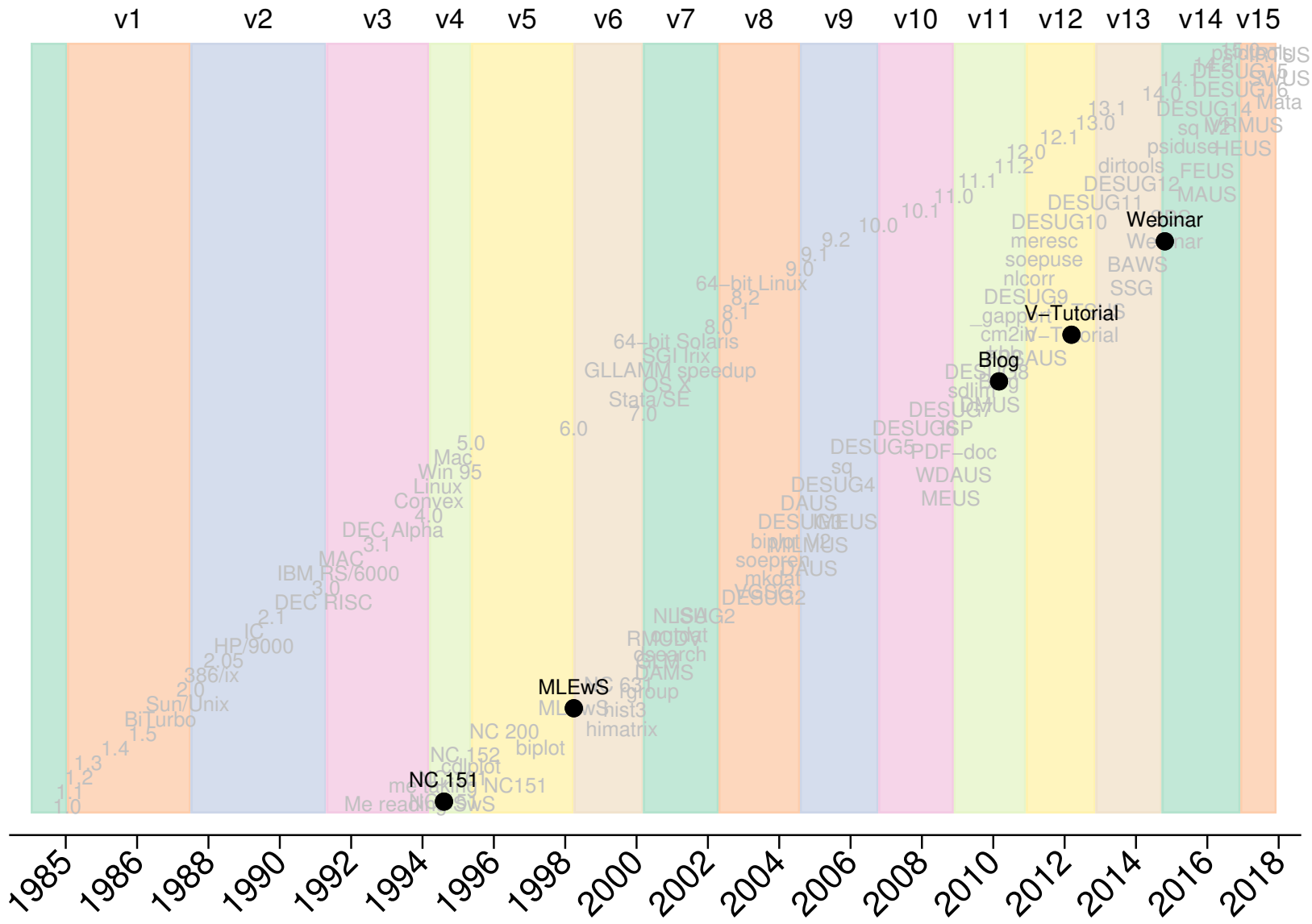
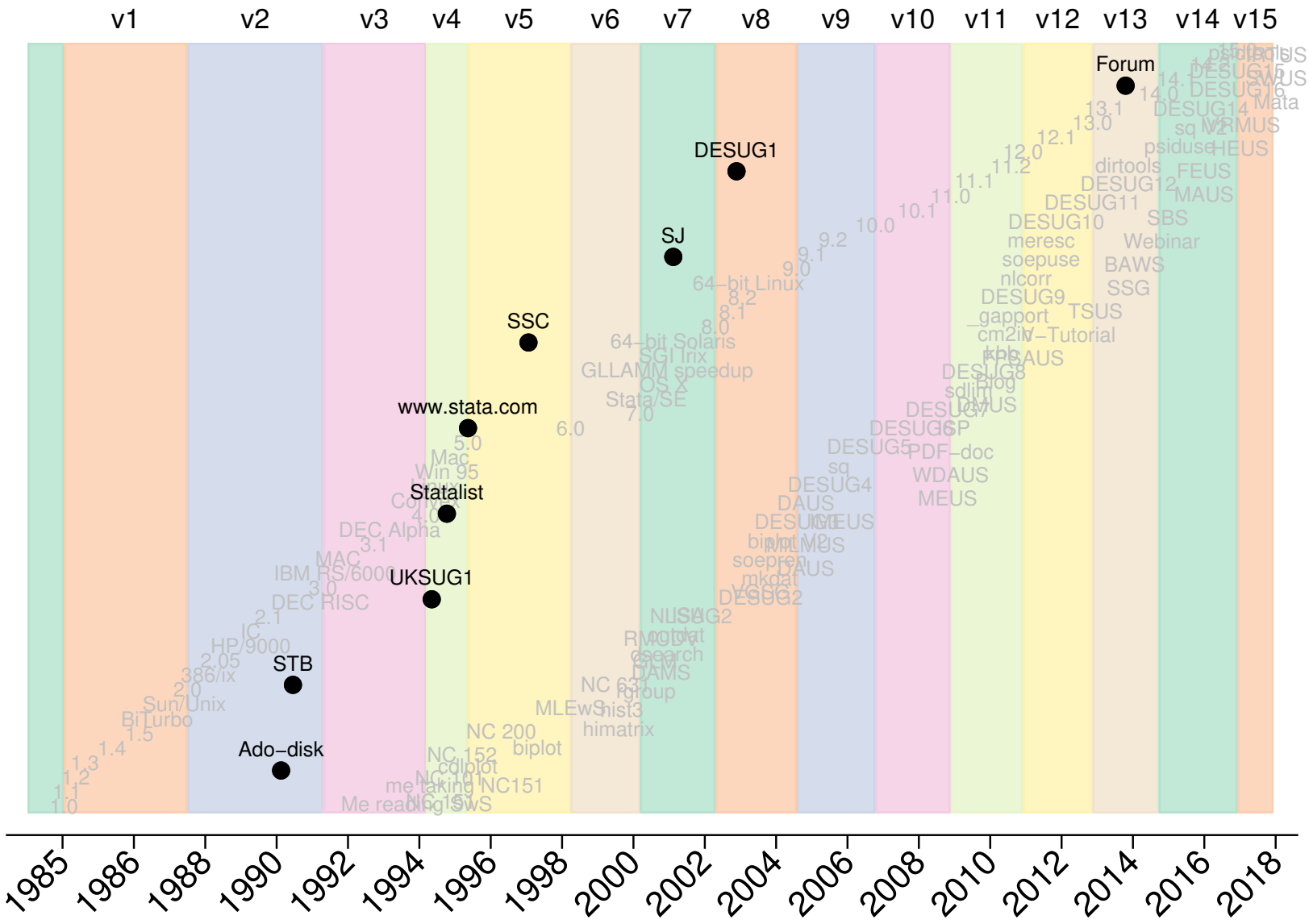
Educational milestones



Users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Dead ends

- Stage. External command line editor for `.gph`-files. Published 1989, never updated. Deprecated since Stata 5.
- `gph` commands (Stata 5). Low level graphics language placed between

  ```
  . gph open
  ...
  . gph close
  ```

  `gph` continues to work under `version 7`; see `help gph`.
- Stata 7 had a “programmable bottom-layer graphics engine You may wish to code your graphics programs using this new feature and, if so, point your browser at `http://developer.stata.com/graphics` Documentation for the new developmental system resides there.”
- `for` Loops as one-liner; Deprecated since Stata 8.

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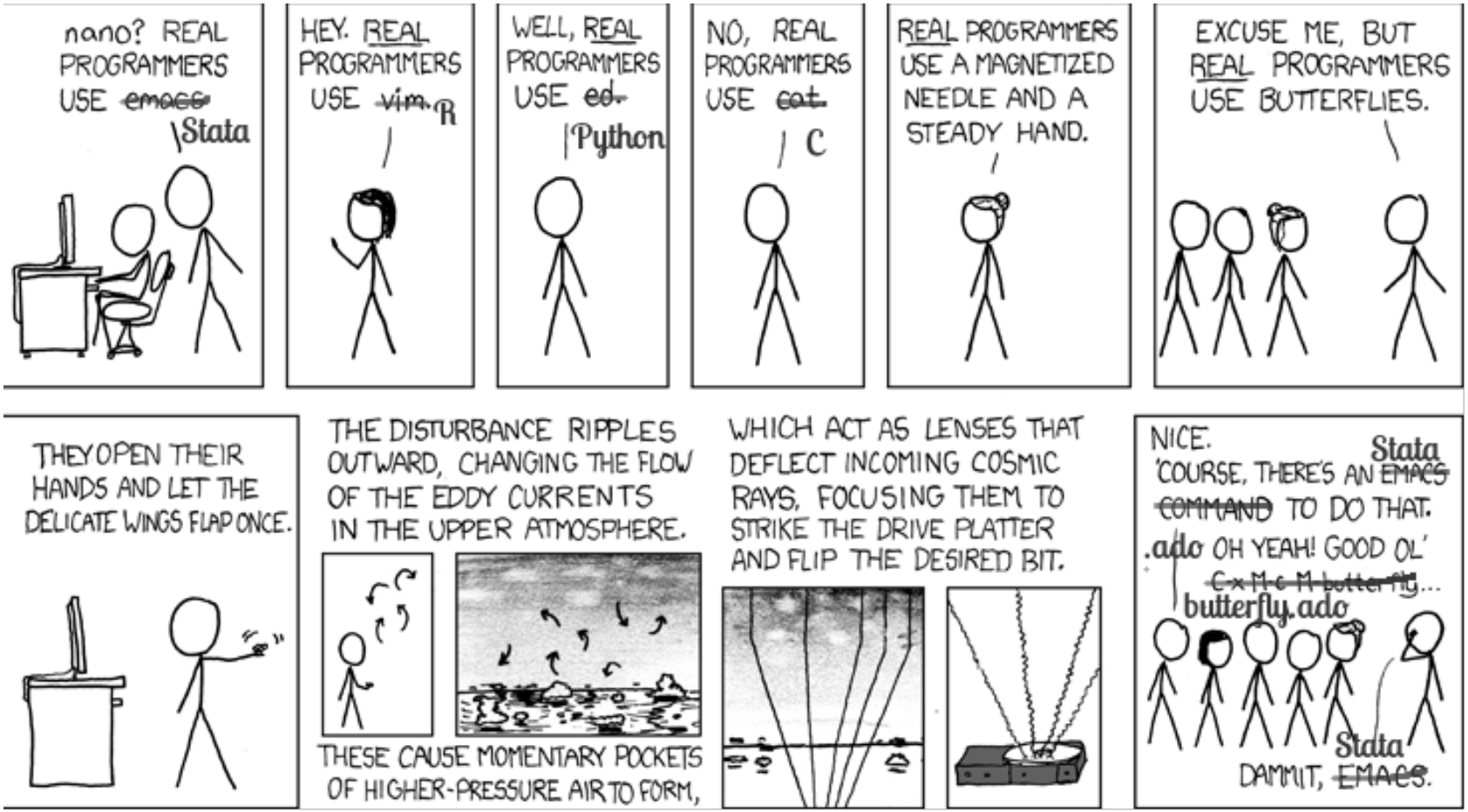
Real Programmers



Source: `https://xkcd.com/378/`

Speed

Speed was one (the) reason for me to start Stata. It is now a (the) reason for some to convert to R.
I do not know, but speed has many dimensions:

- Speed of writing code
- Speed of writing correct code
- Speed of understanding written code
- Speed of the code written
- Speed of making written code running on different OS

In any case, C is faster than Mata, Mata is faster than Ado, but a well written Ado-file might still be faster than a badly written Mata program.
Of course users can add their own C-code to Stata (Plugins); see `http://www.stata.com/plugins`.

Commands

- The number of available techniques was one (the) reason for me to start Stata. It is now a (the) reason for some to convert to R.
- I believe that R has more routines than Stata.
- As of today, I, personally don't care. So far, I can do all I want to do with Stata.
- Quality of routines?
- I am aware of colleagues saying that Stata cannot do something, which in fact it can.

Animated Graphs

- Animated graphs never been a top target of Stata's development
- Gould: animated graphs are for teaching not for publication. Since many journals are now online, this is no longer true.
- 'course, you can do animated graphs with `gr7` from within Stata:

  ```
  . do animated1
  ```

- 'course, you can build animated graphs by calling third party software from within Stata (`ffmpeg`, `convert`, i.e. ImageMagic)

  ```
  . do animated2
  ```

  Alos see `https://blog.stata.com/2014/03/24/how-to-create-animated-graphics-using-stata/`

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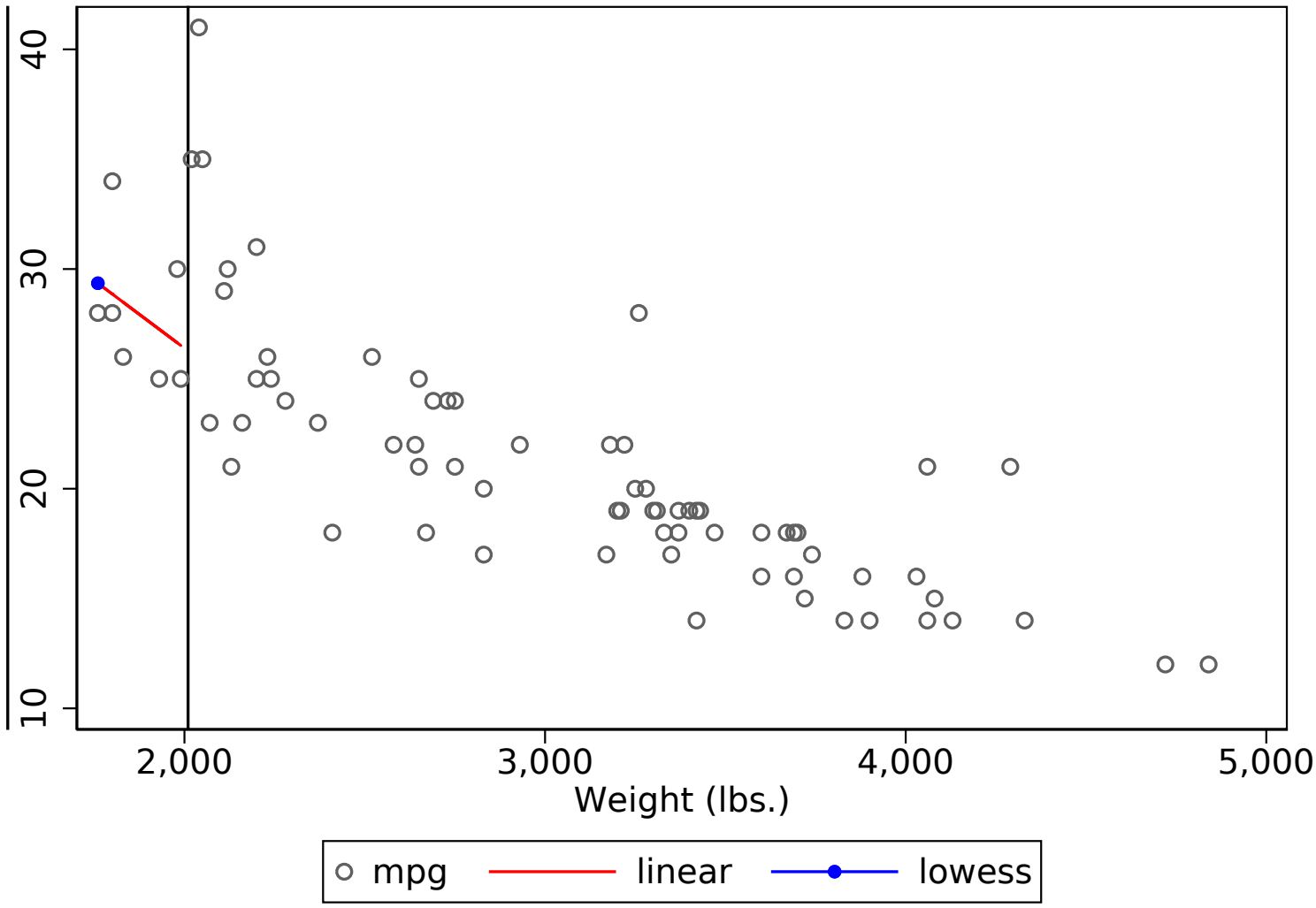

Of course we would like to see this realy interactive.

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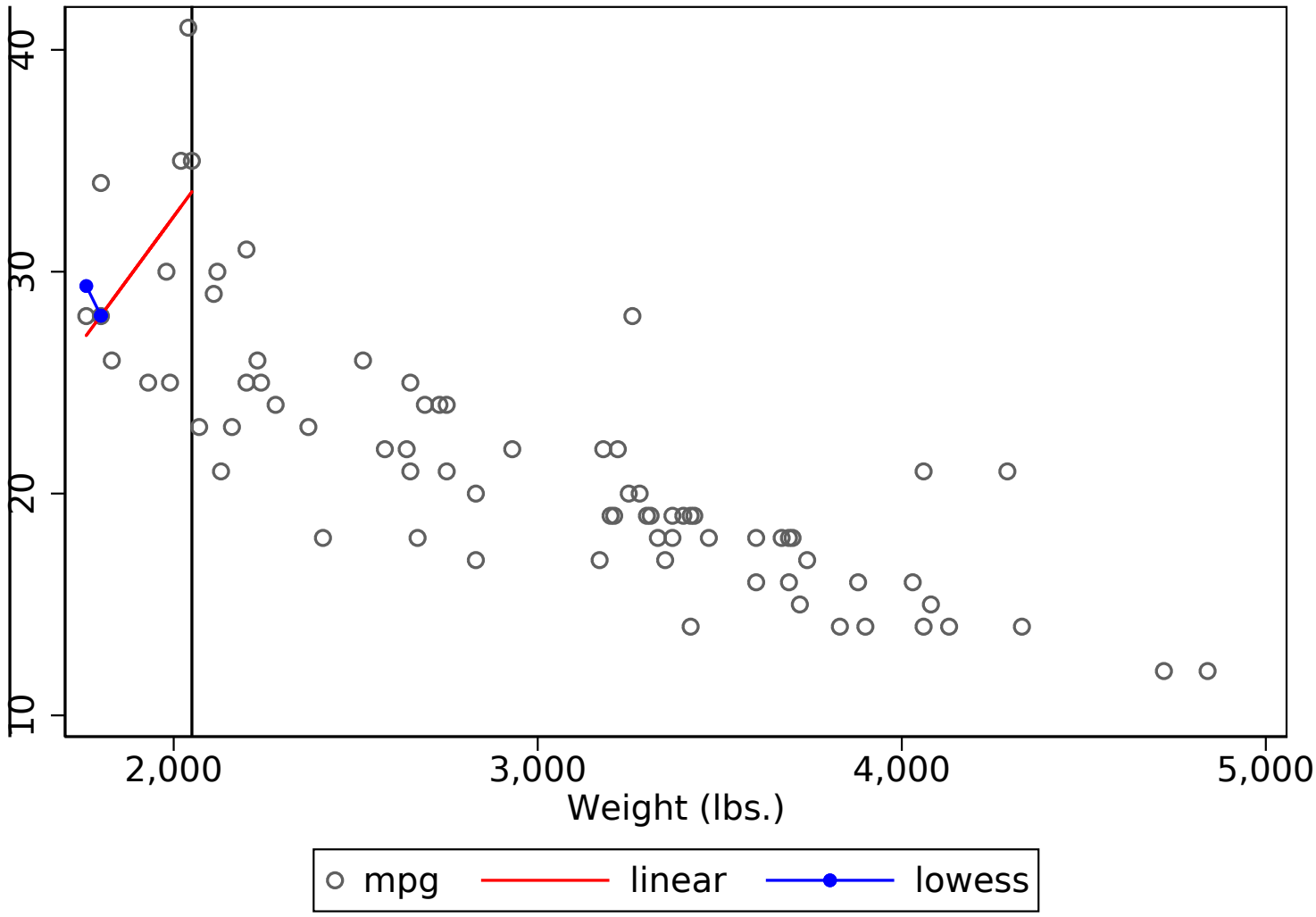

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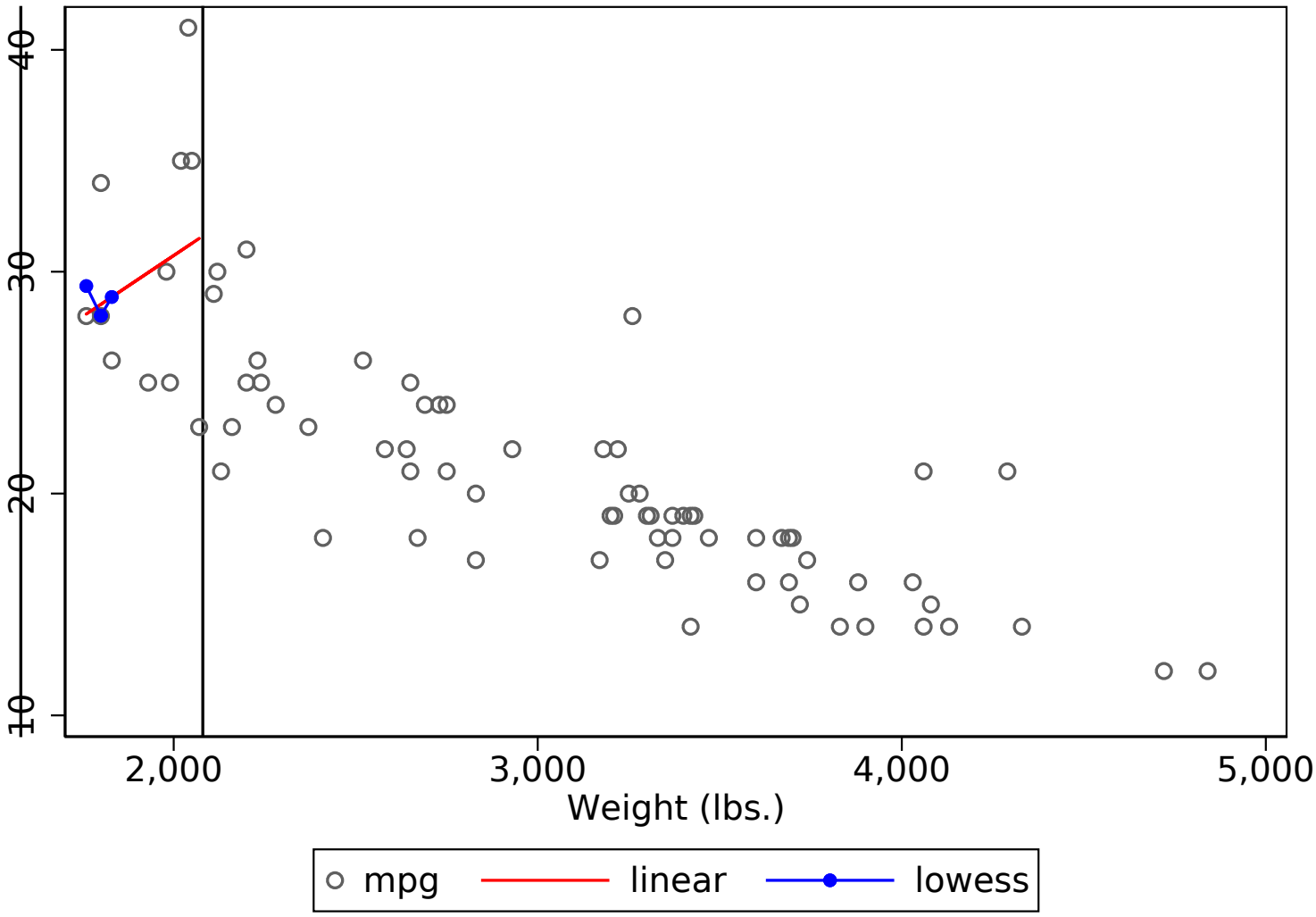

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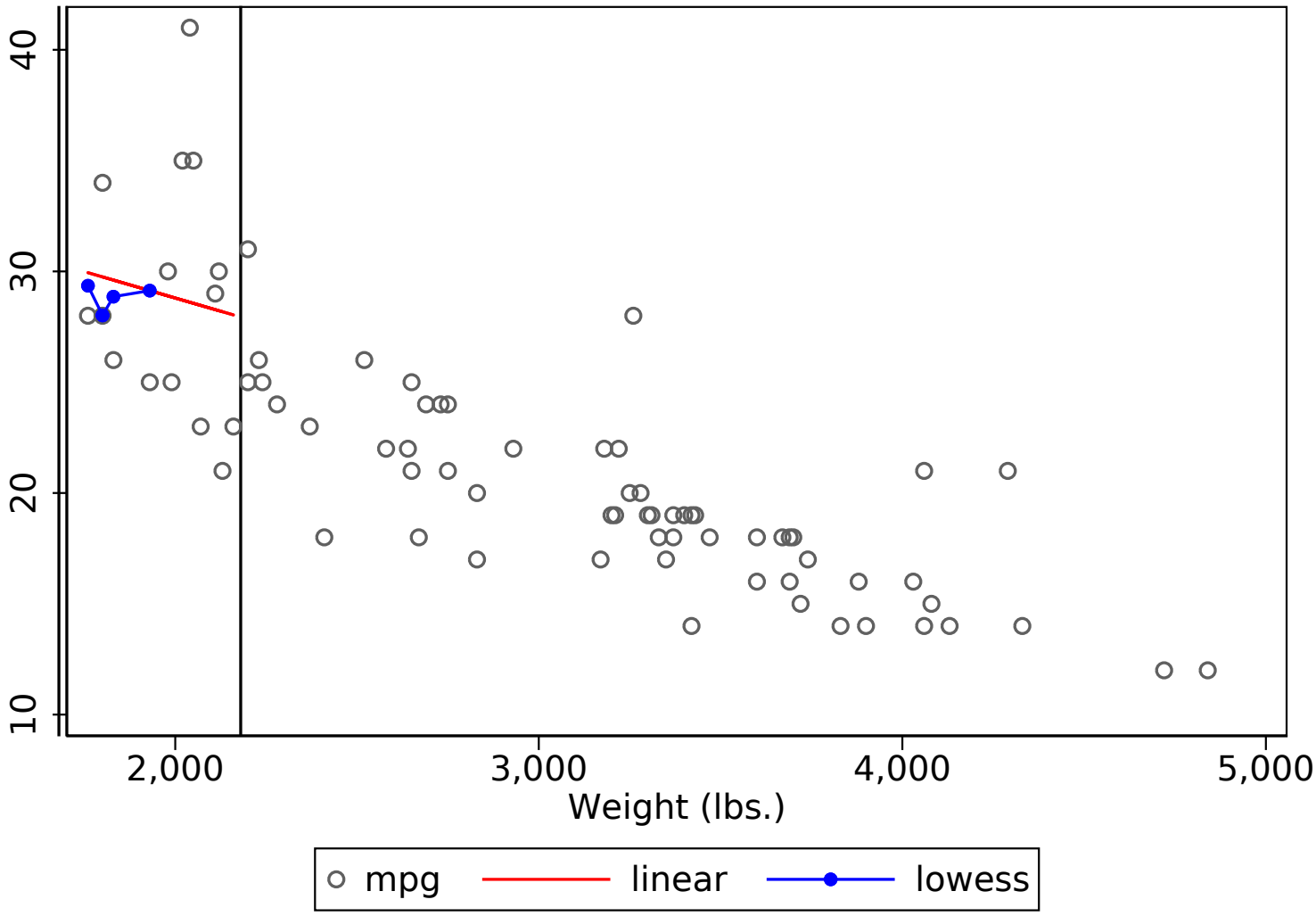

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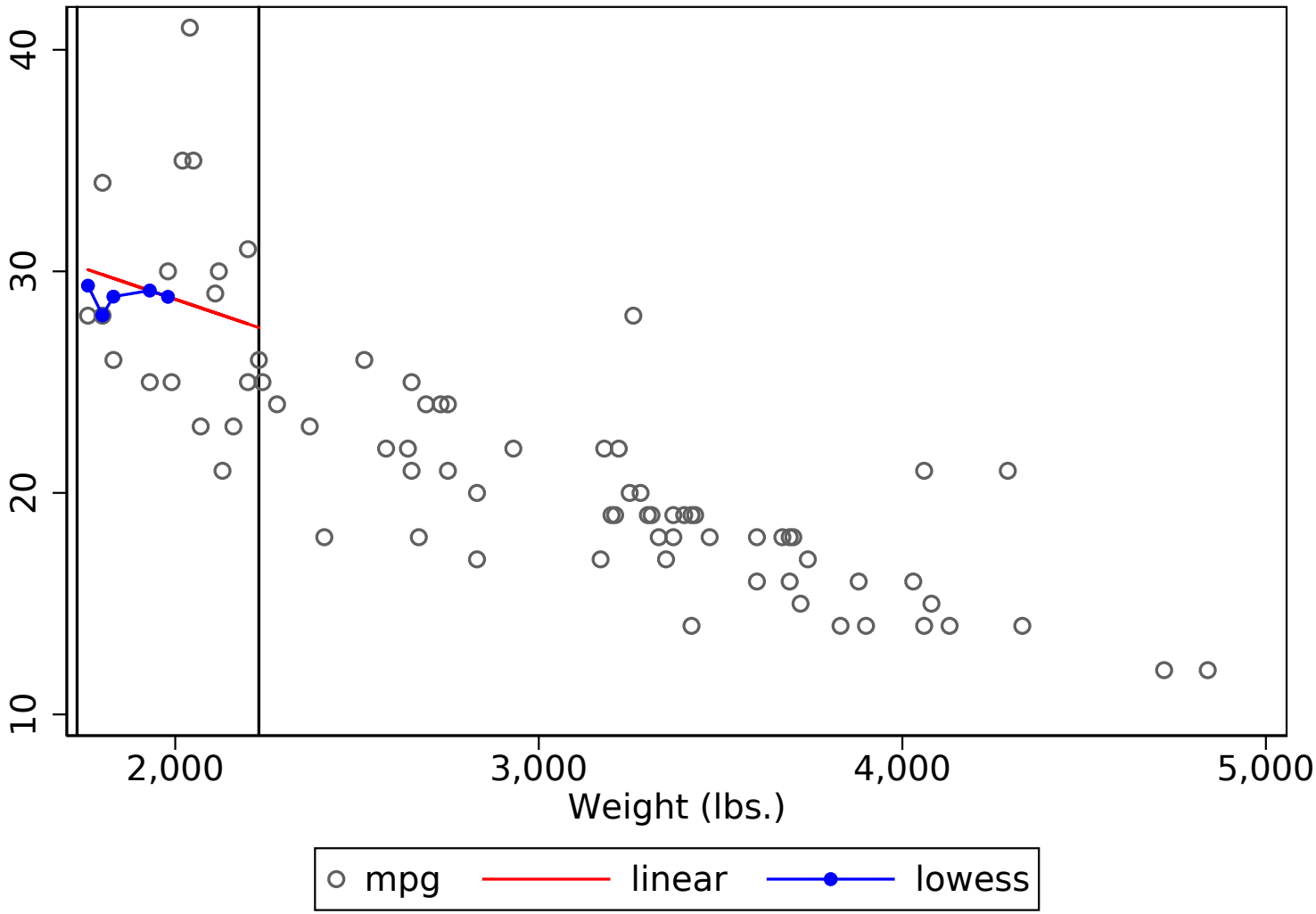

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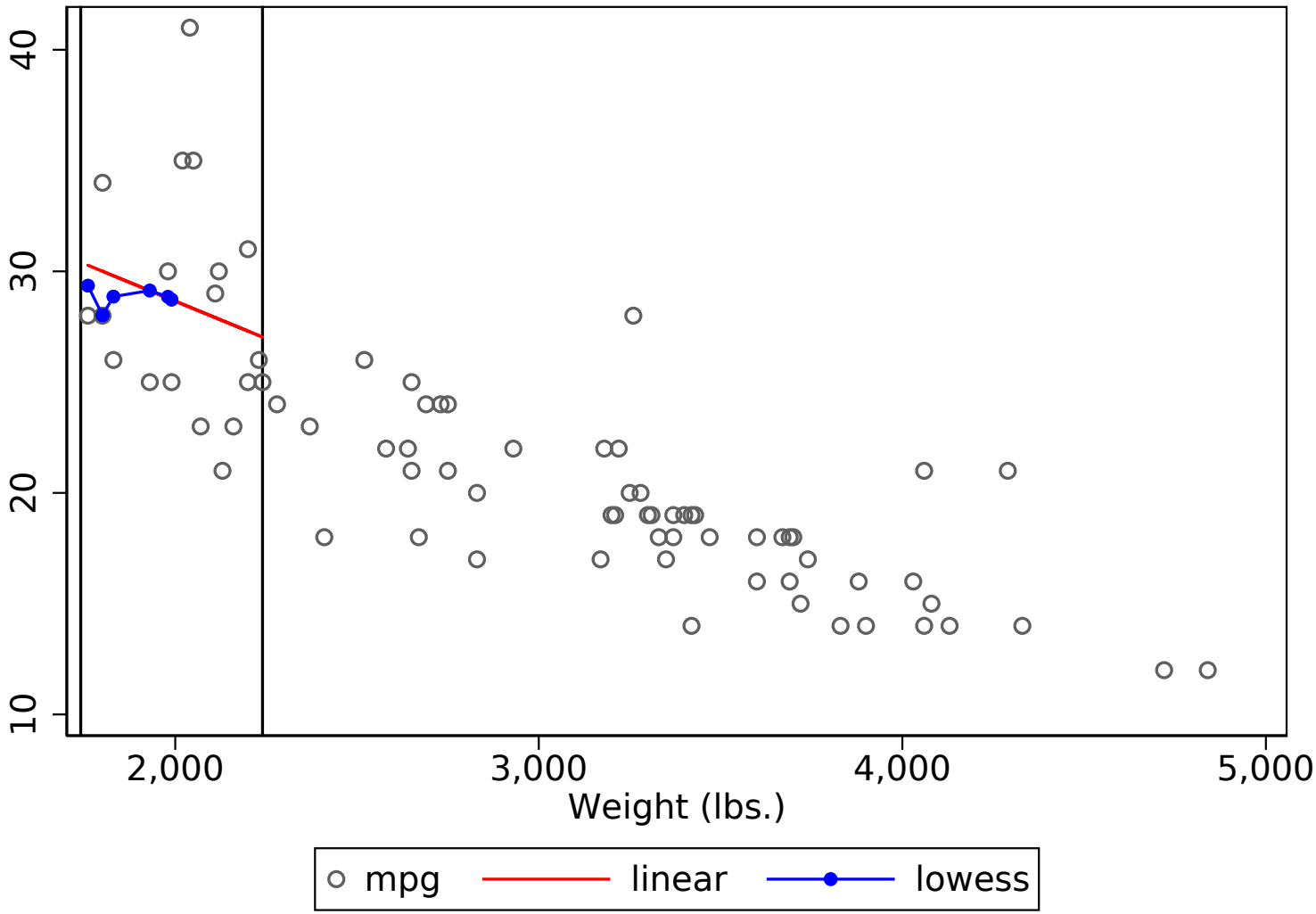

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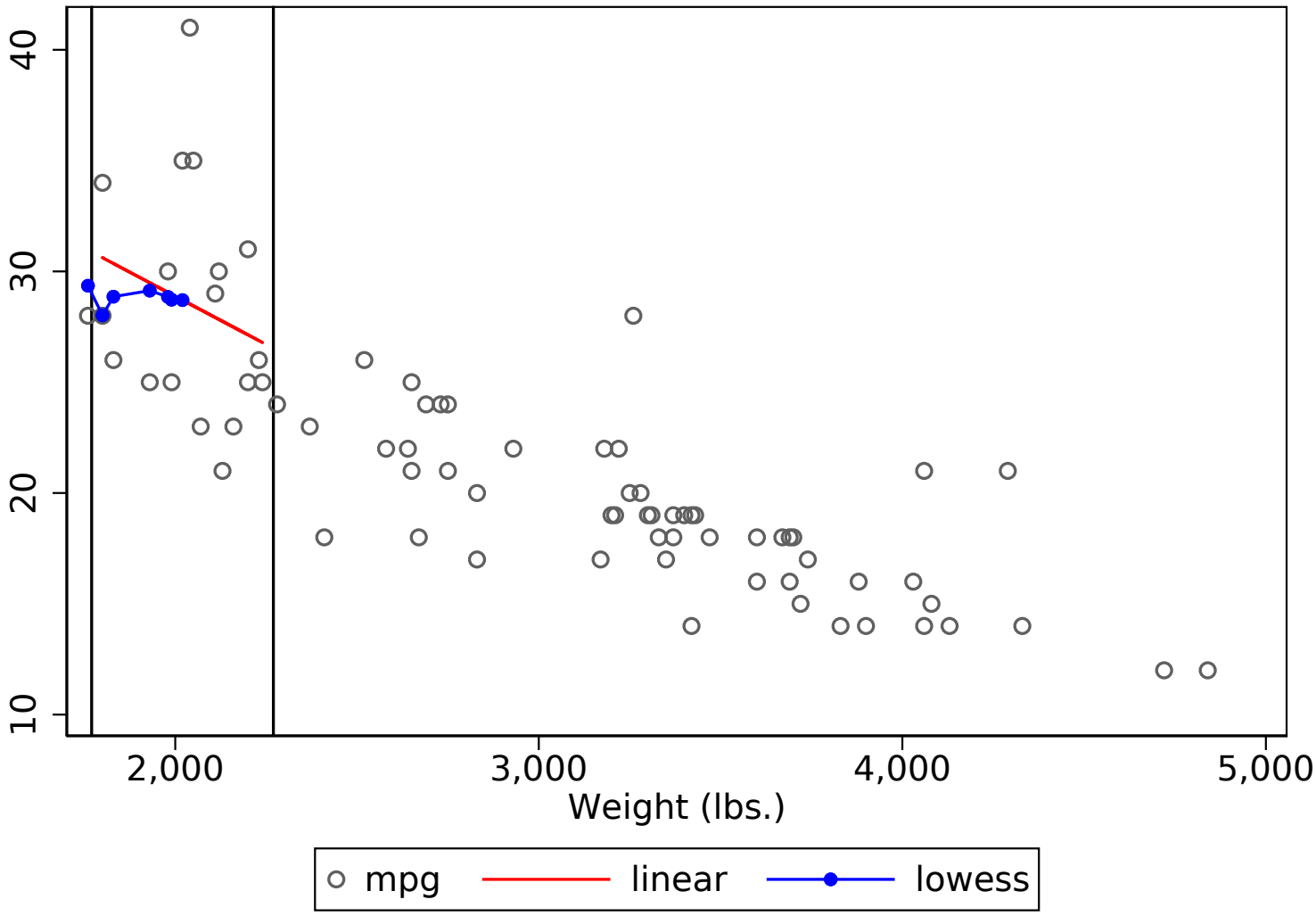

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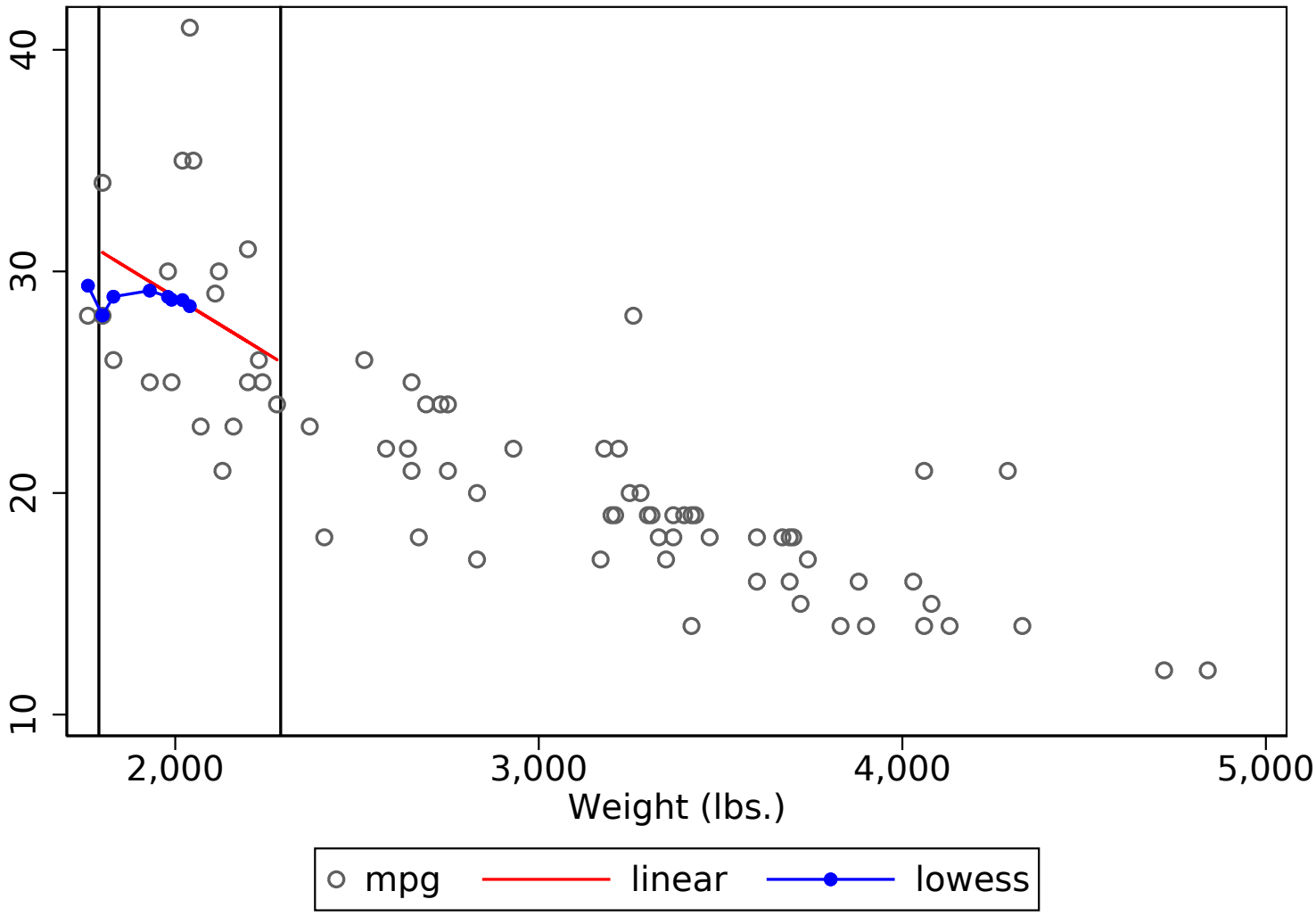

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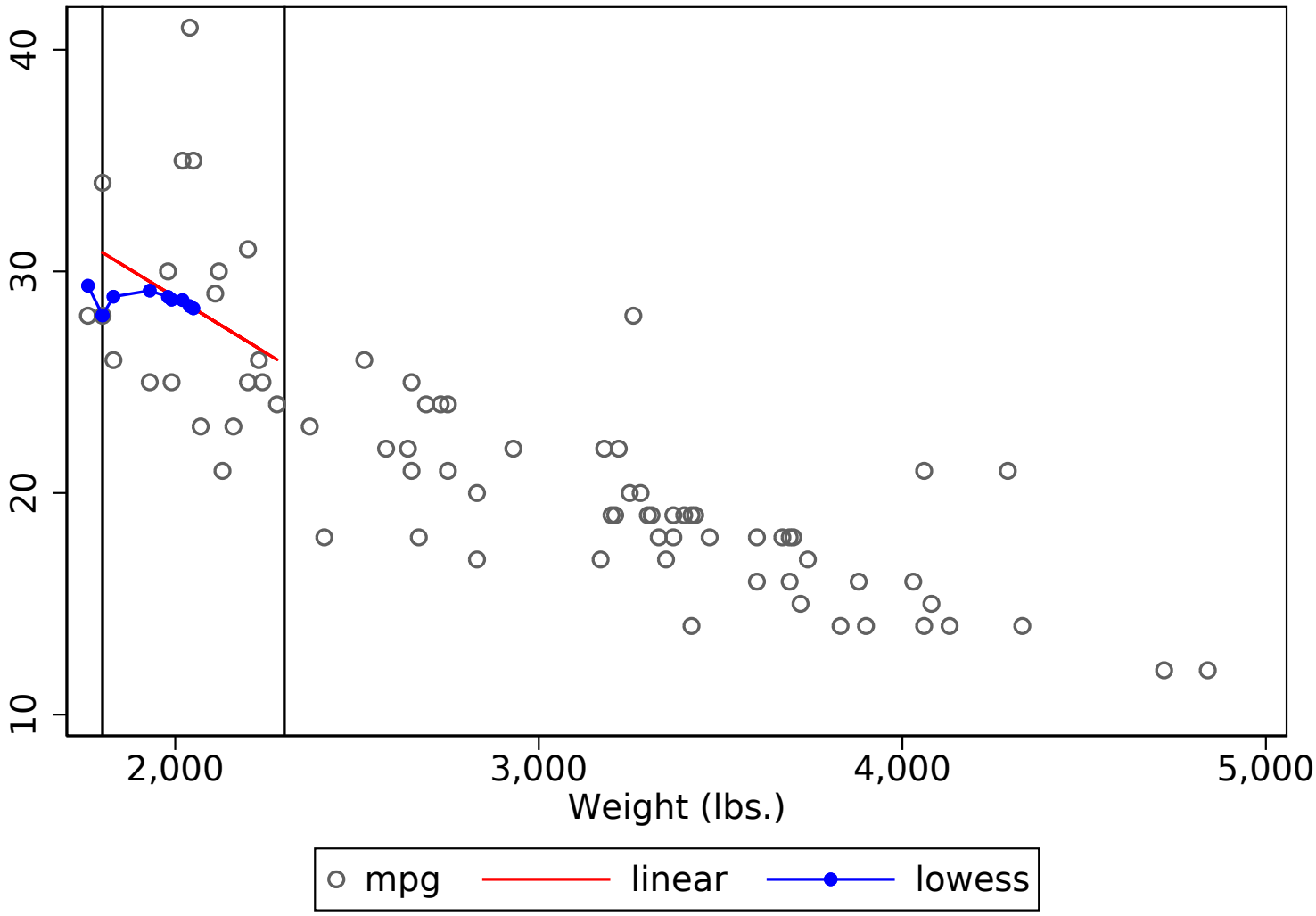

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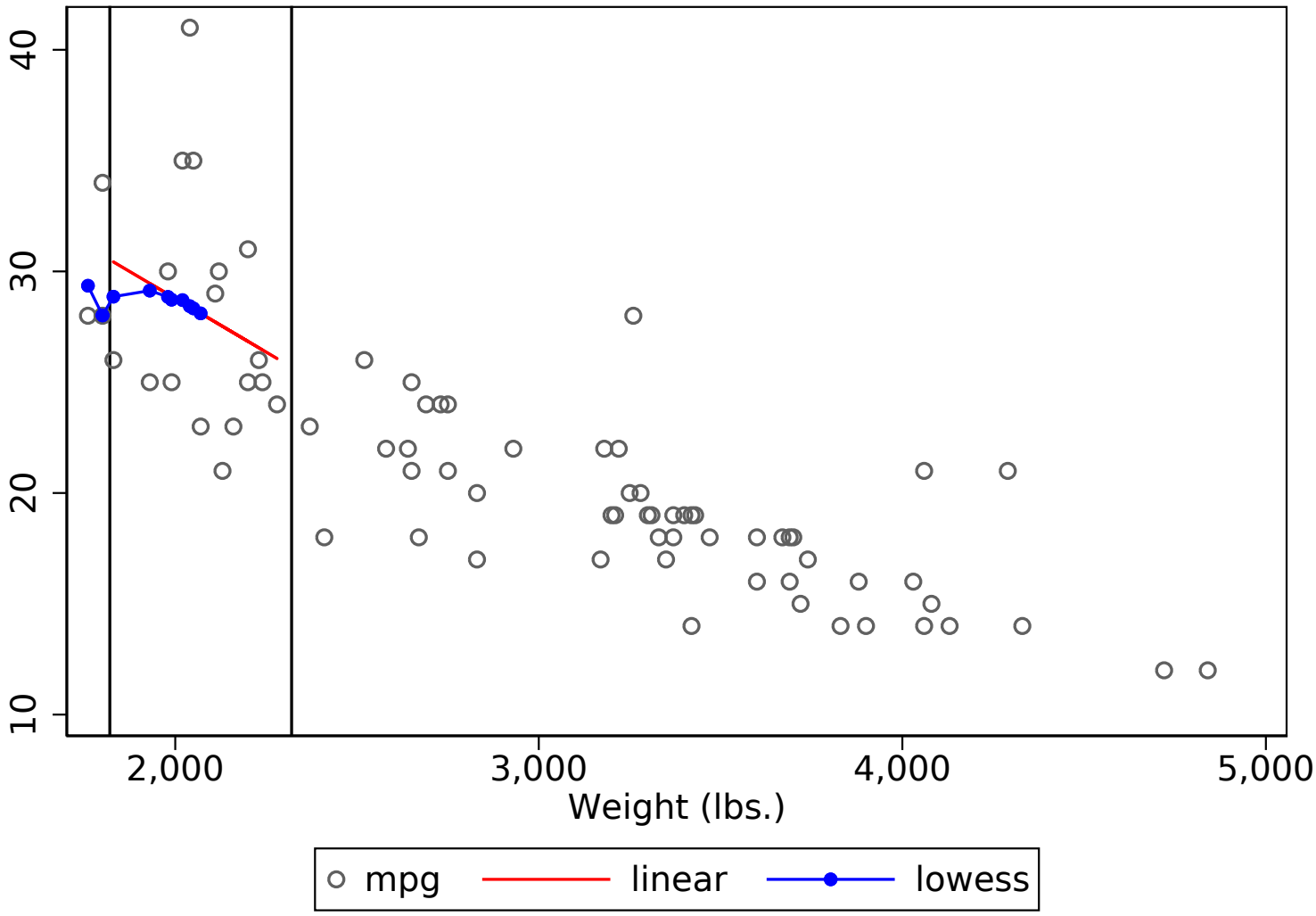

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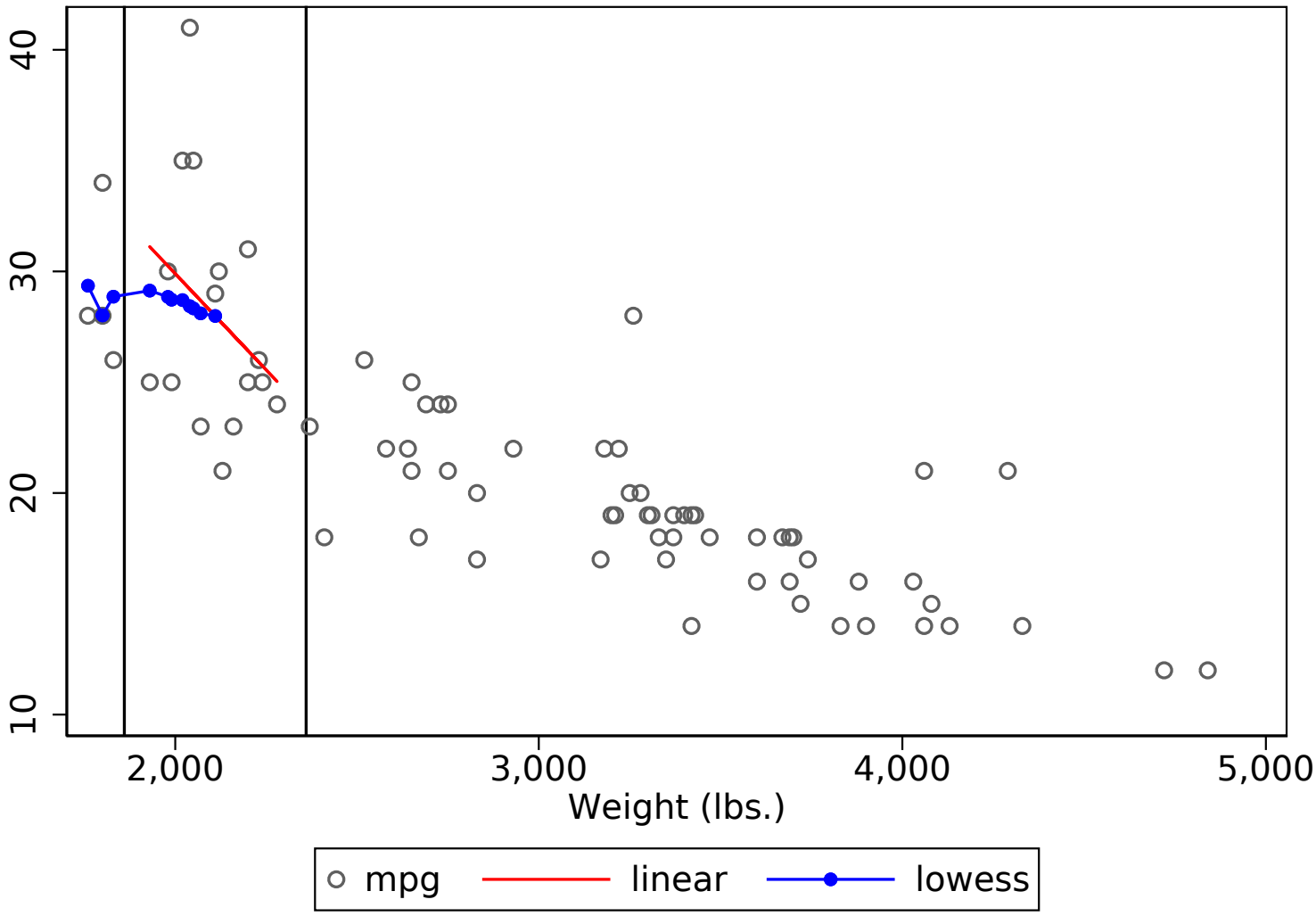

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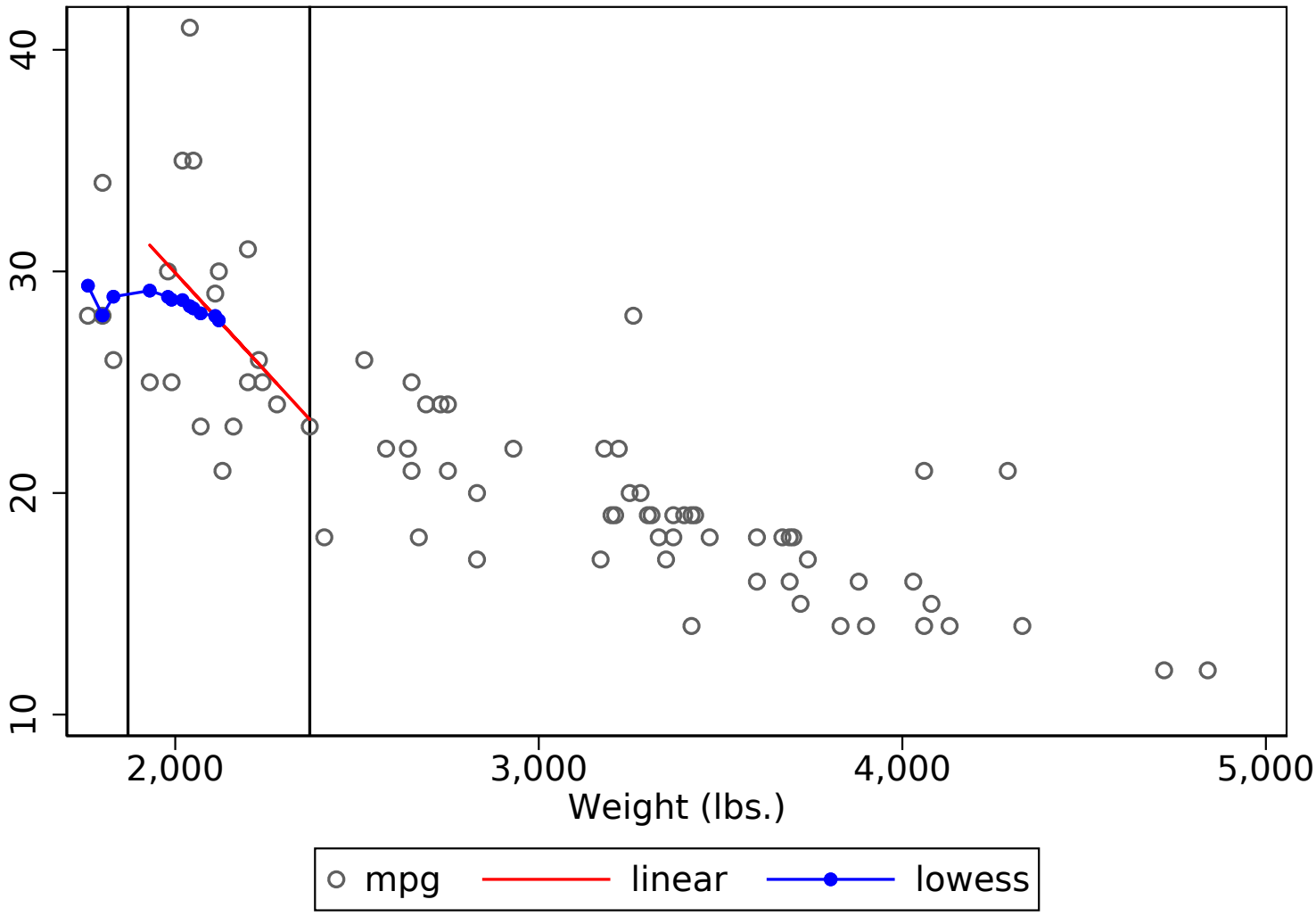

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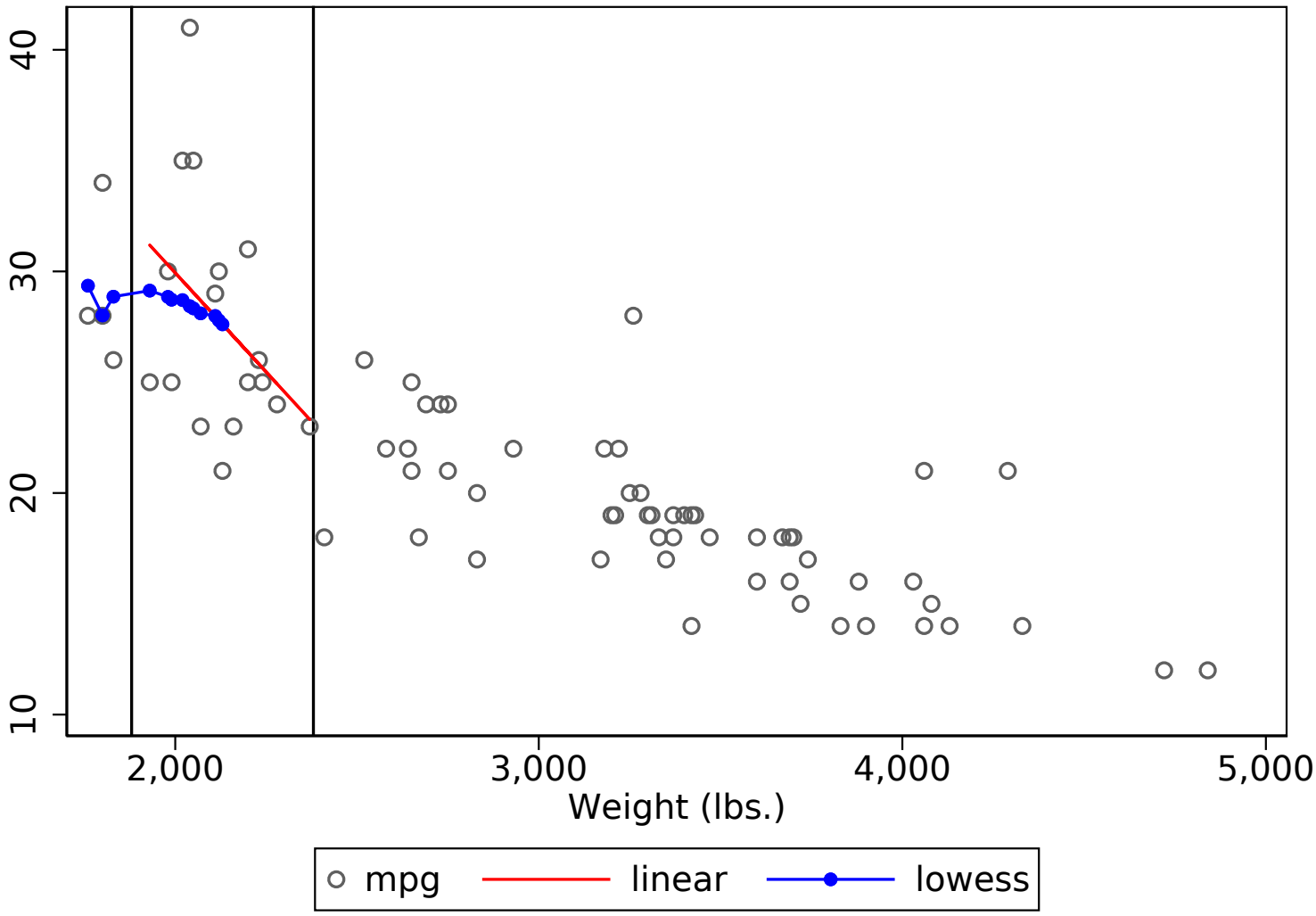

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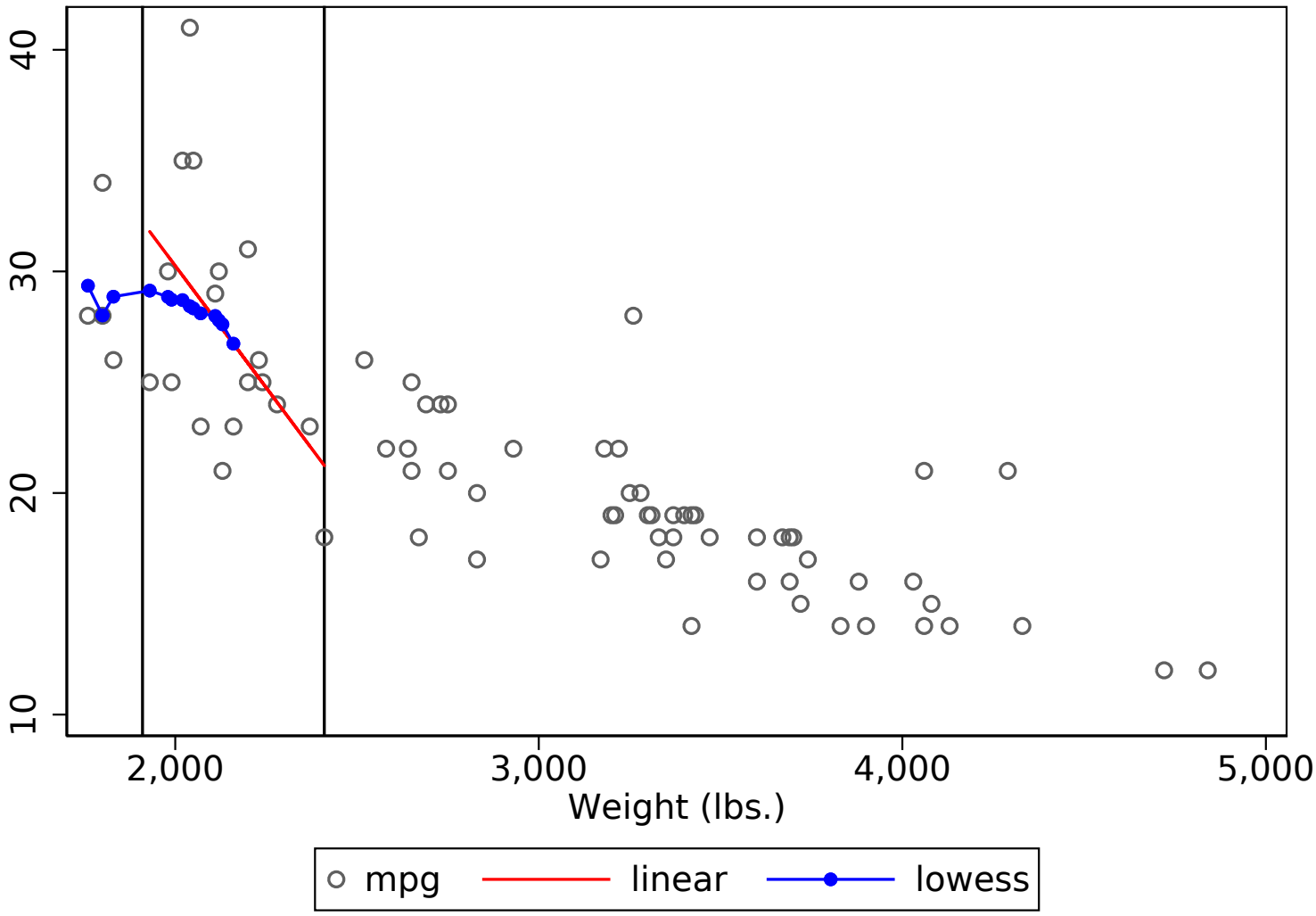

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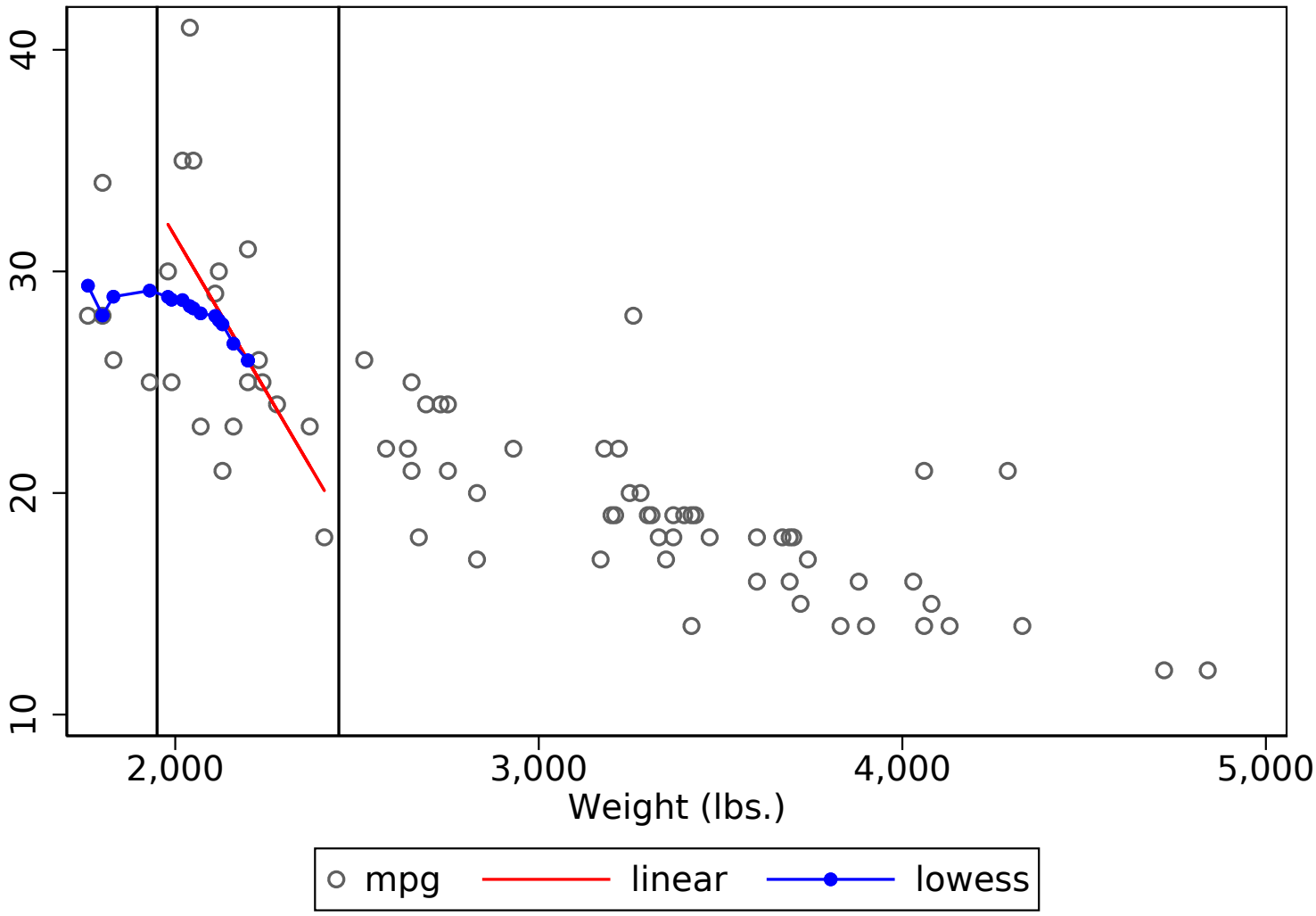

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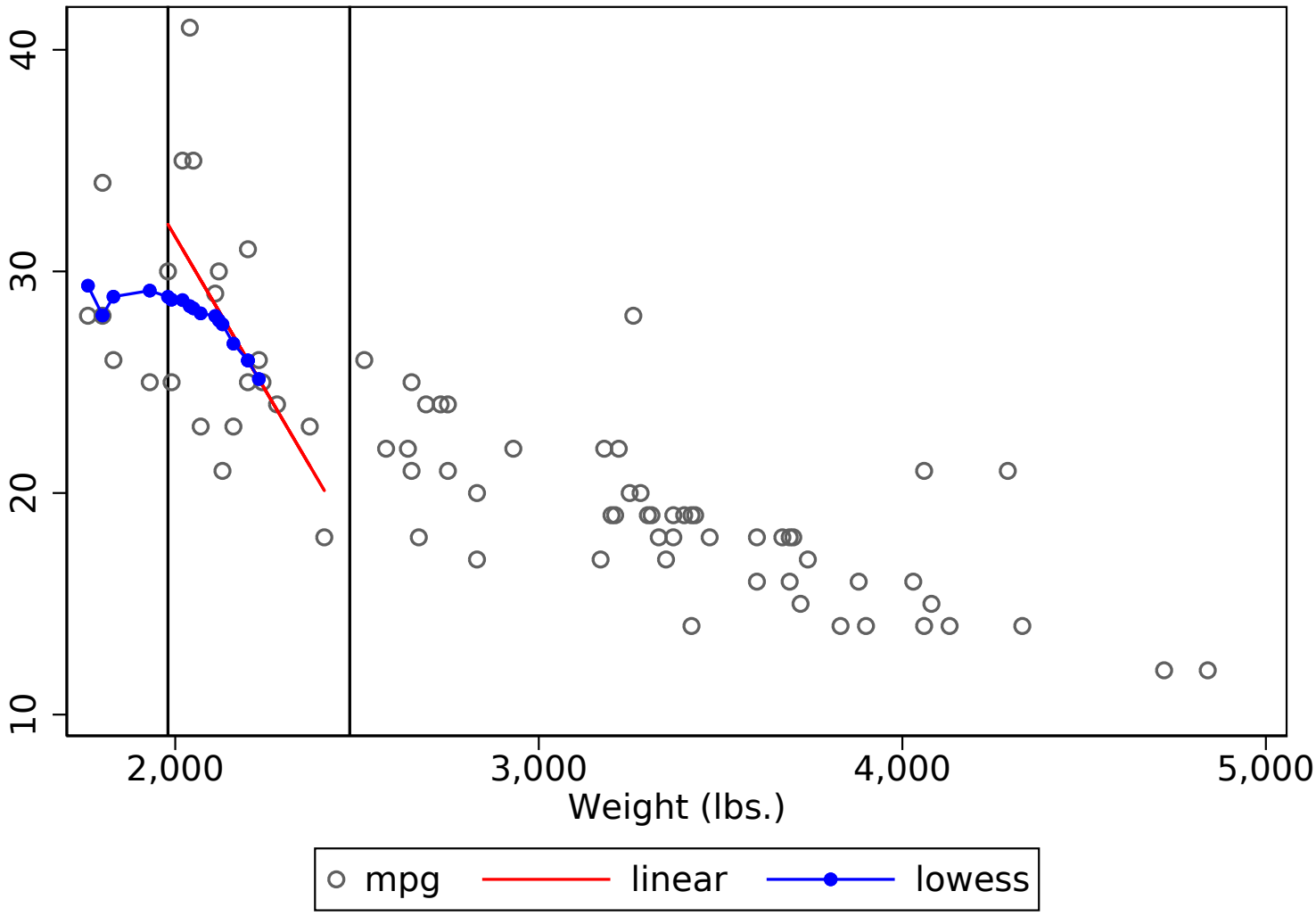

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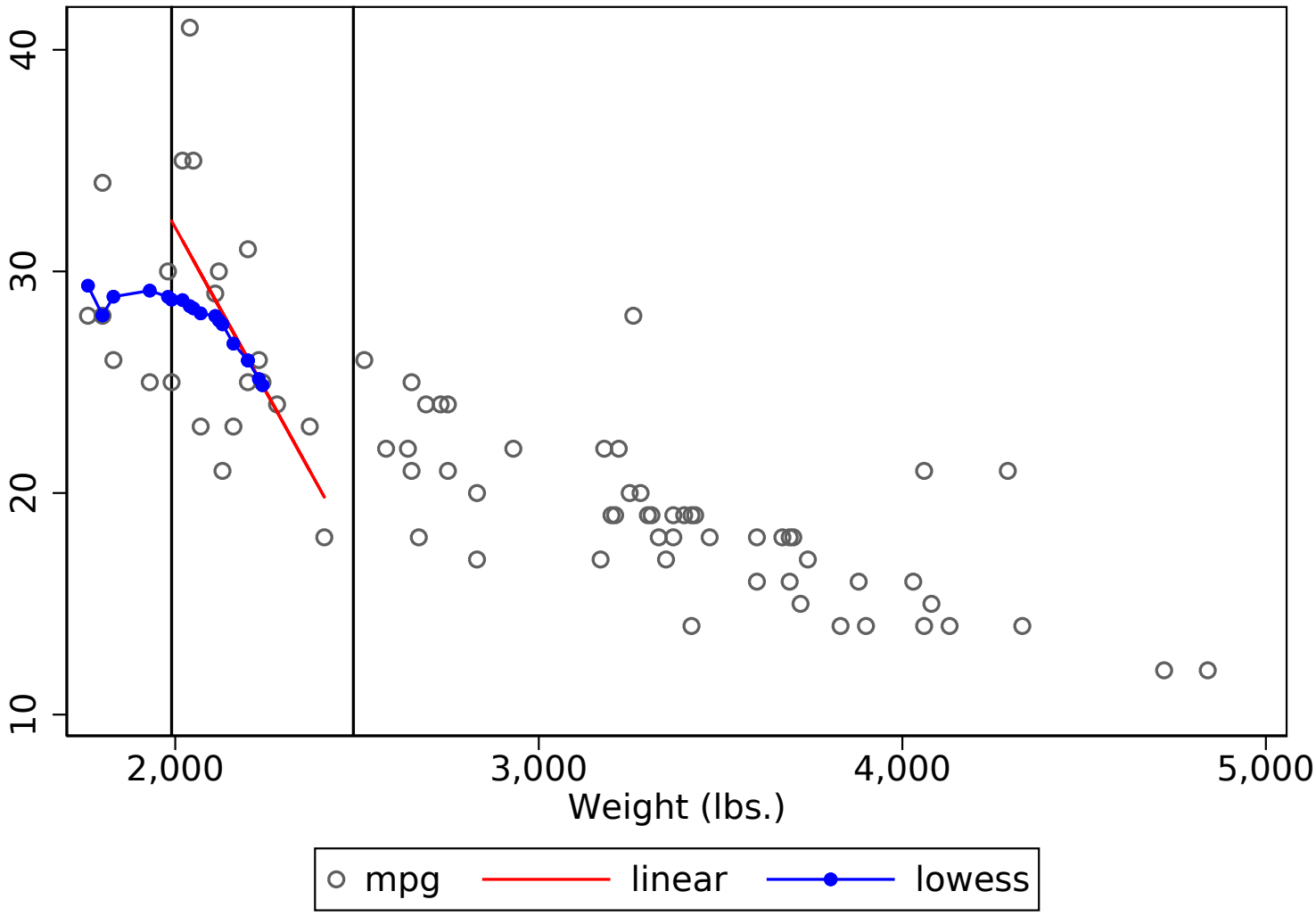

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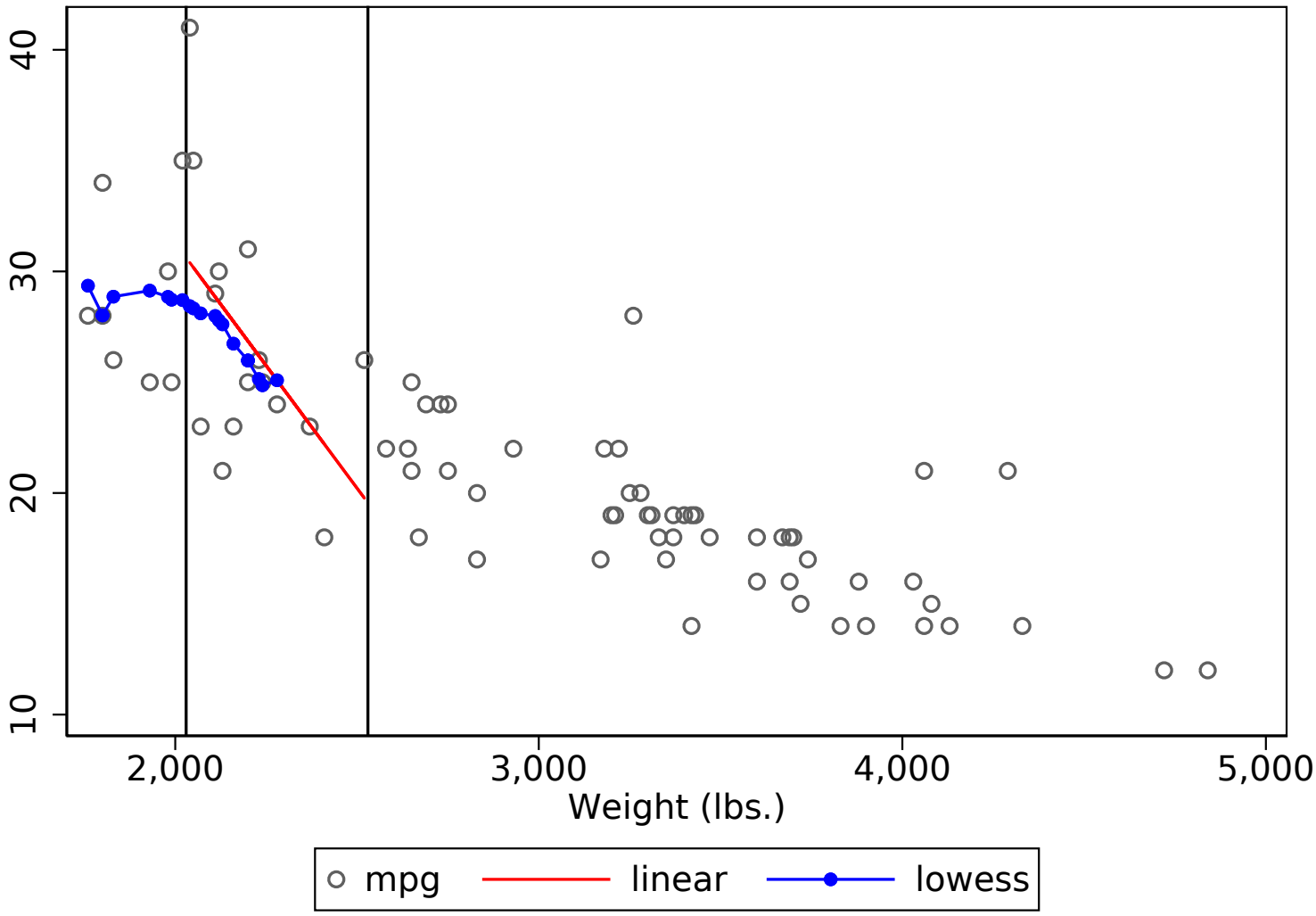

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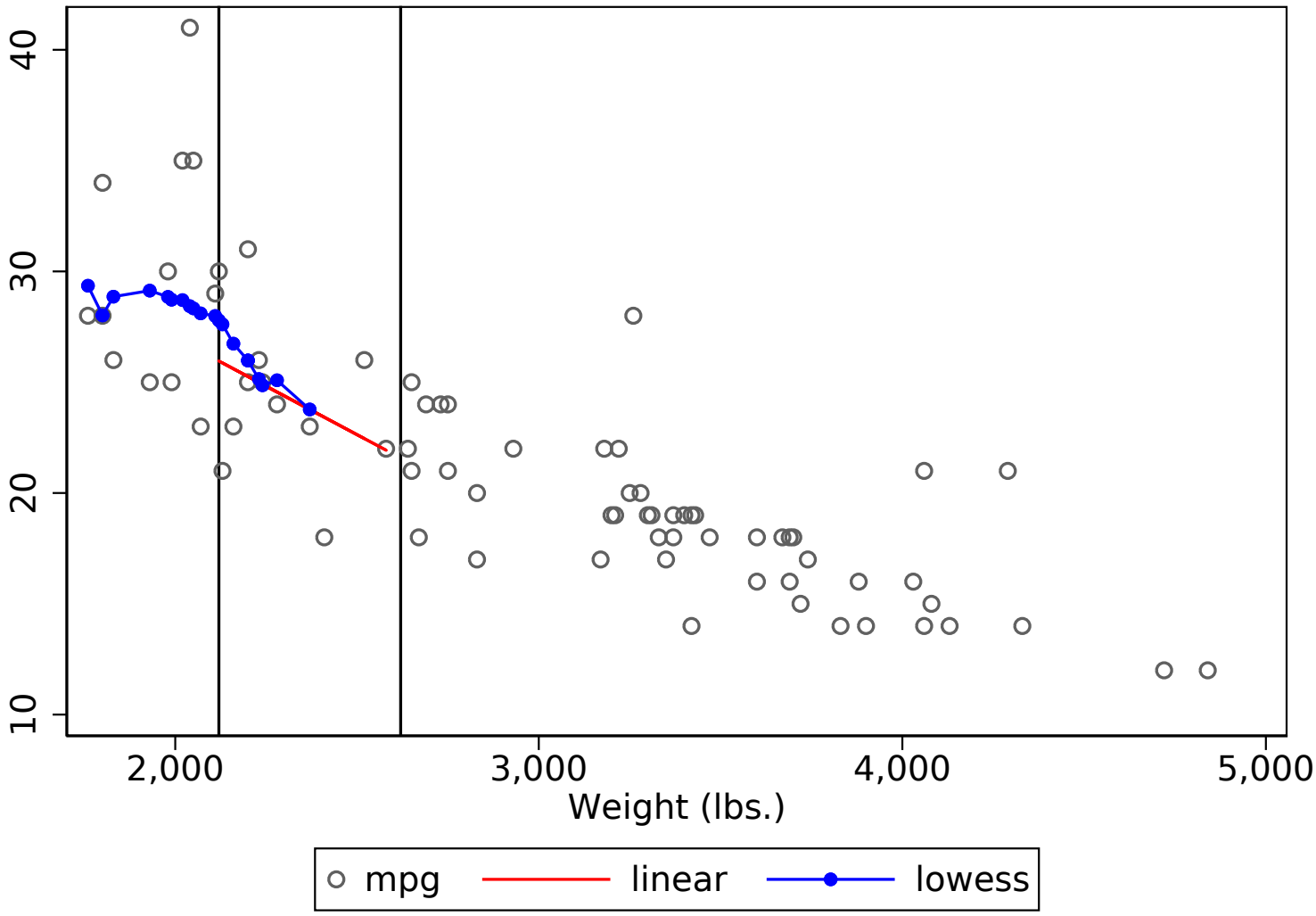

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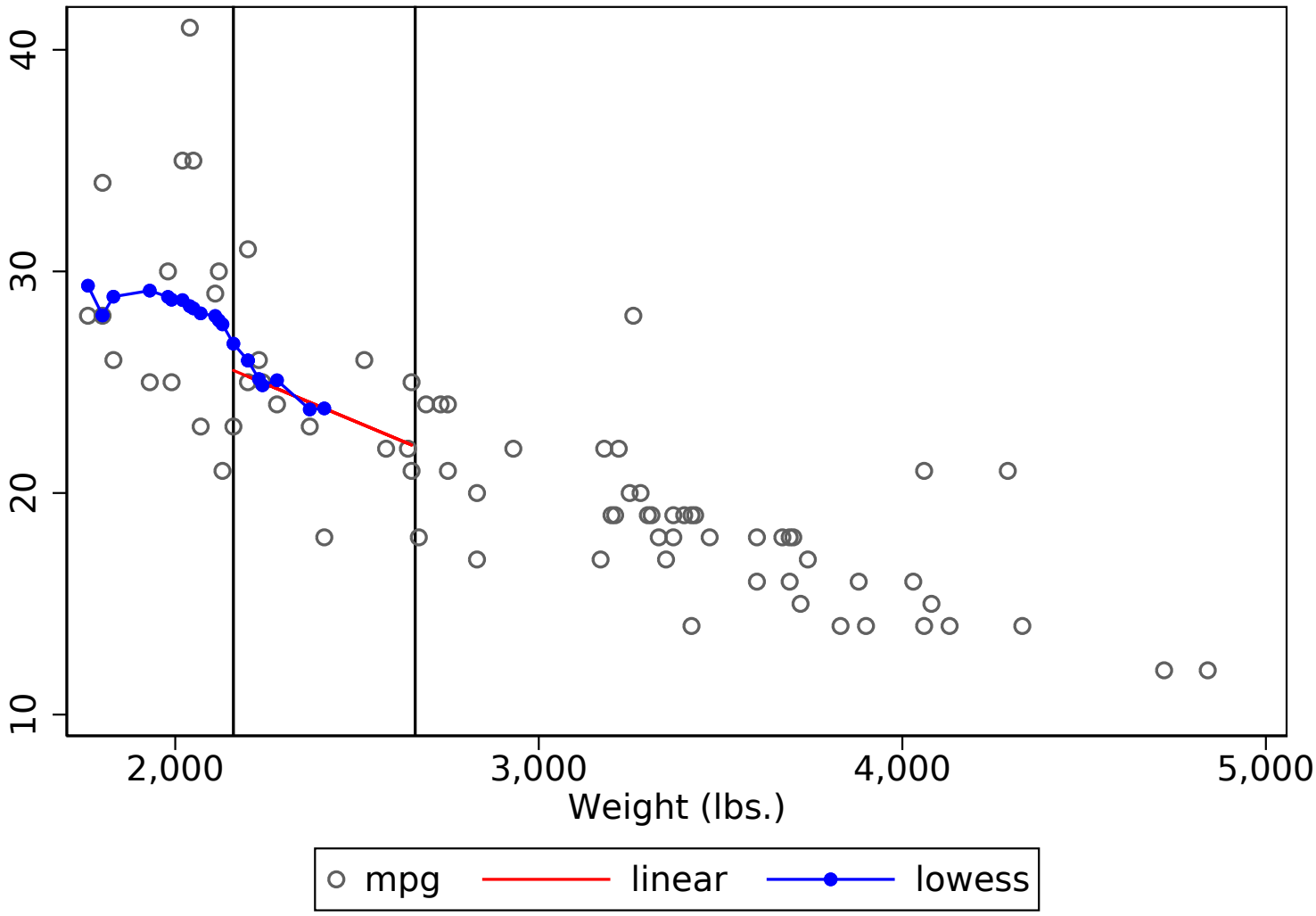

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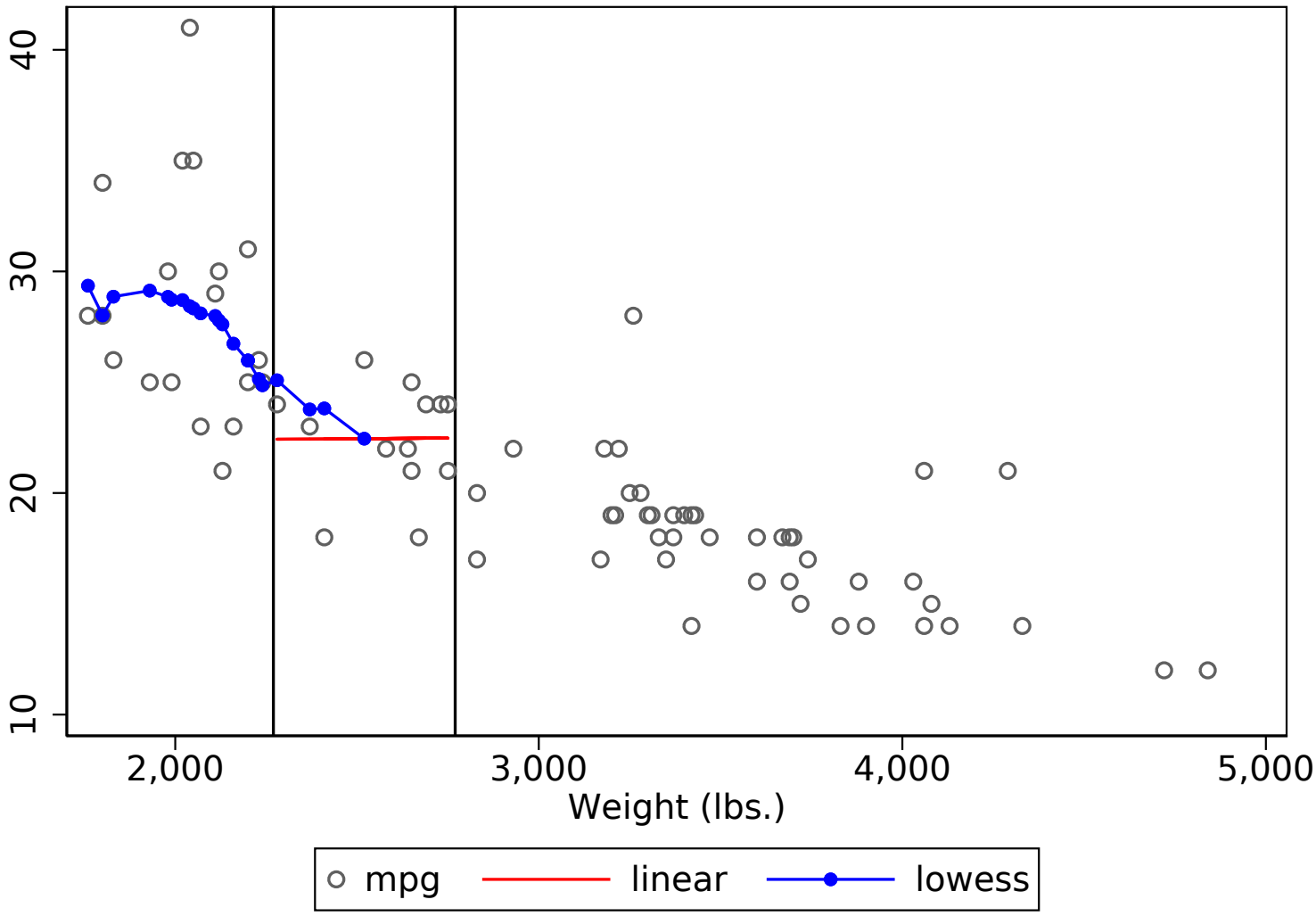

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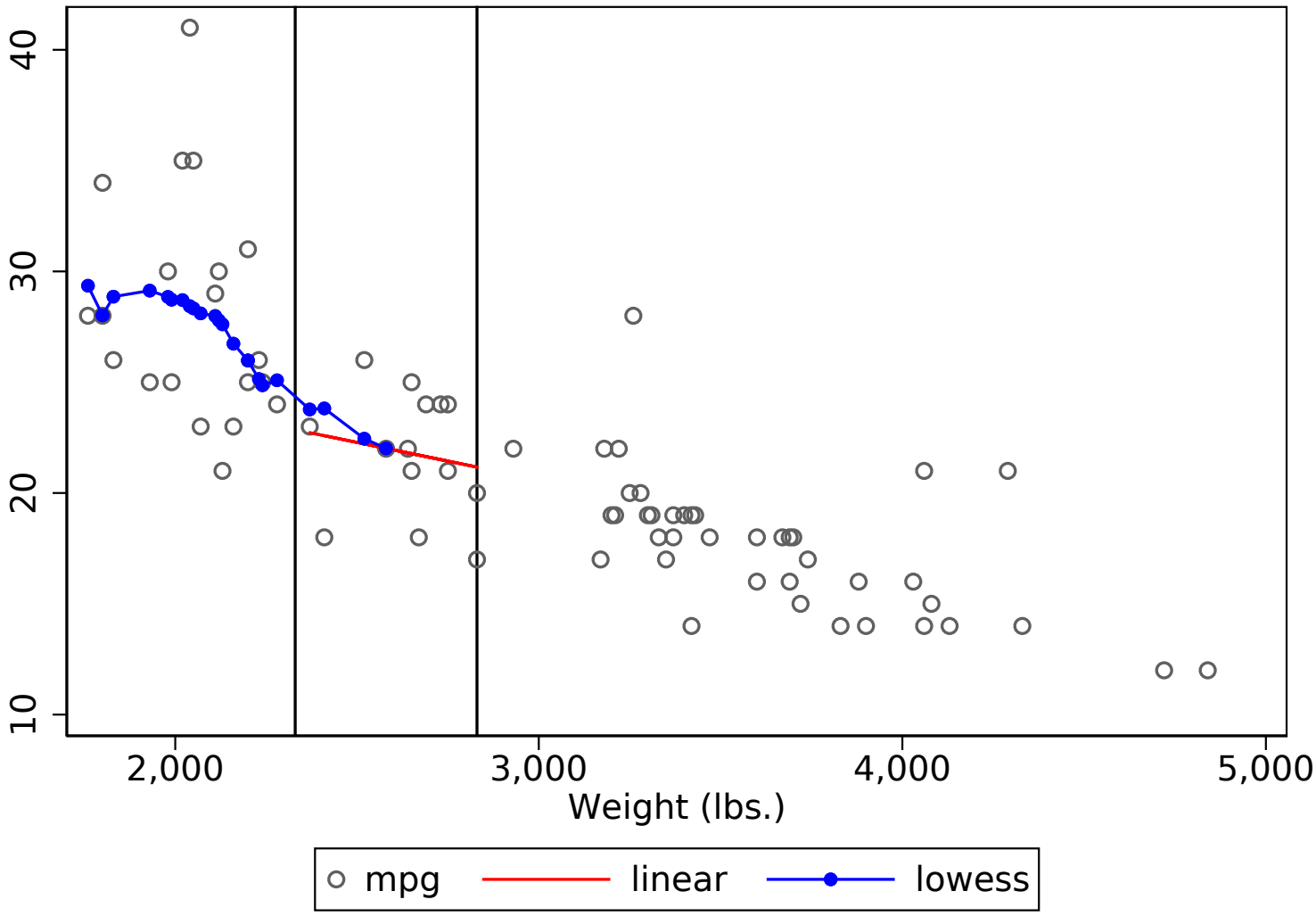

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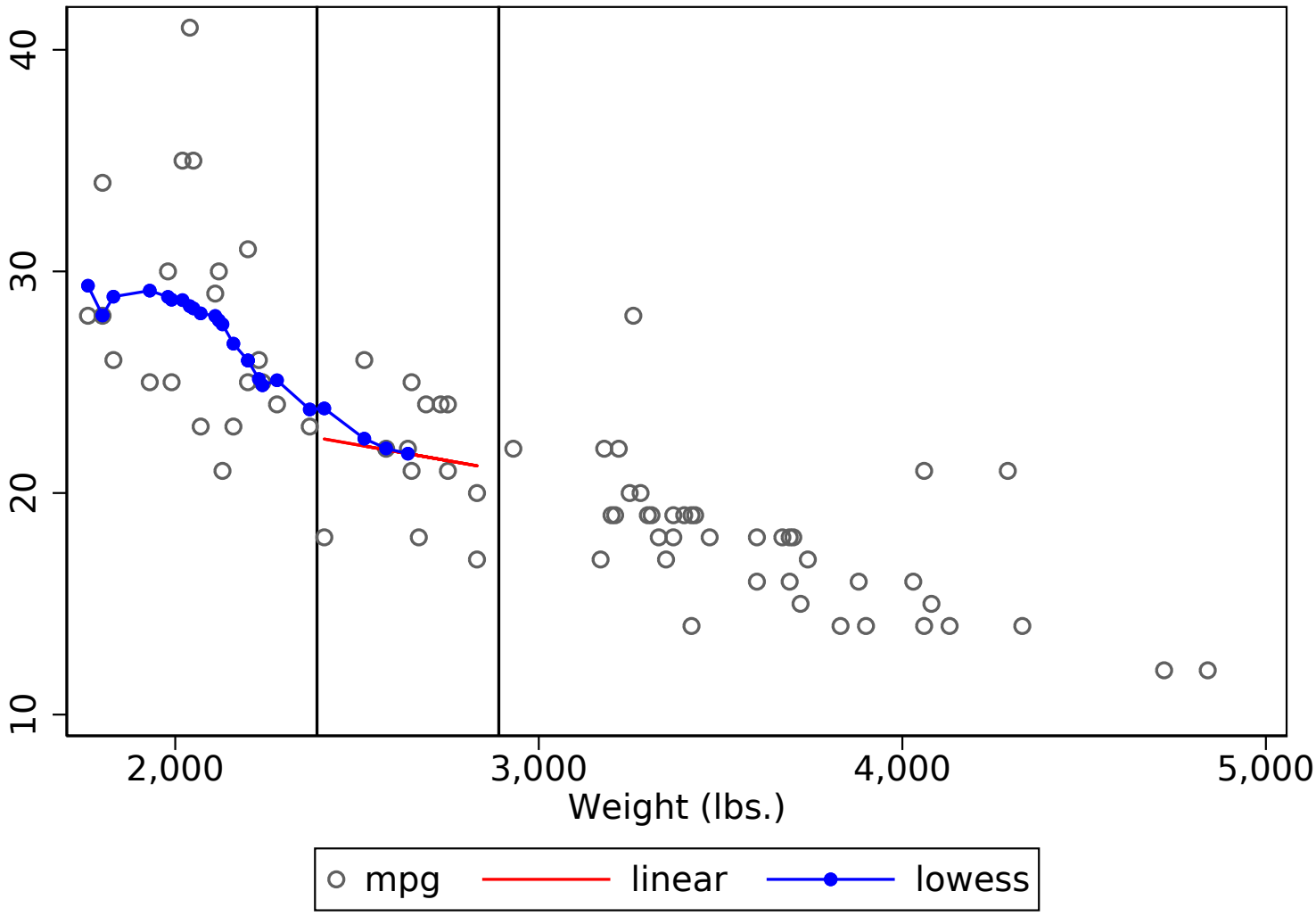

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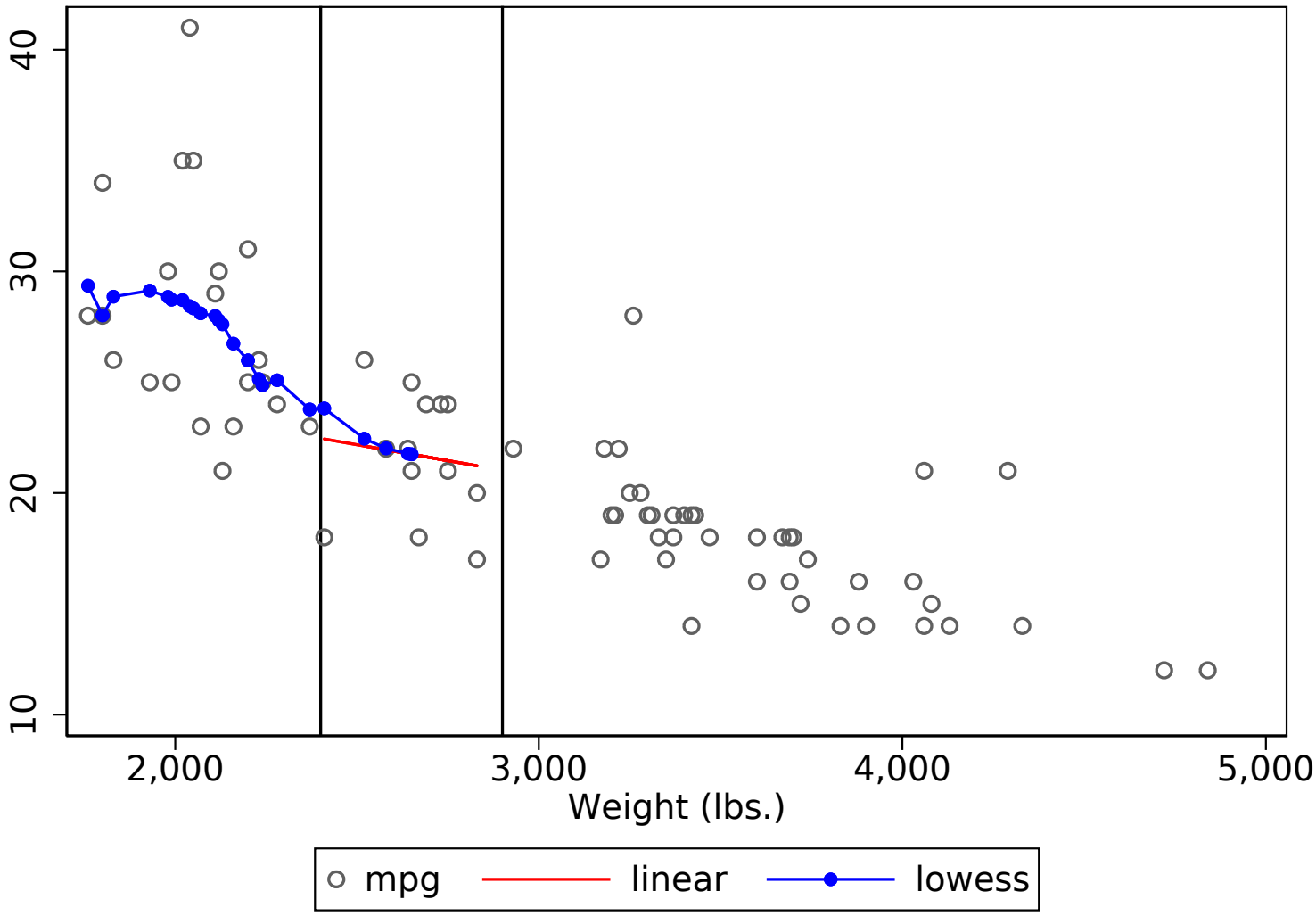

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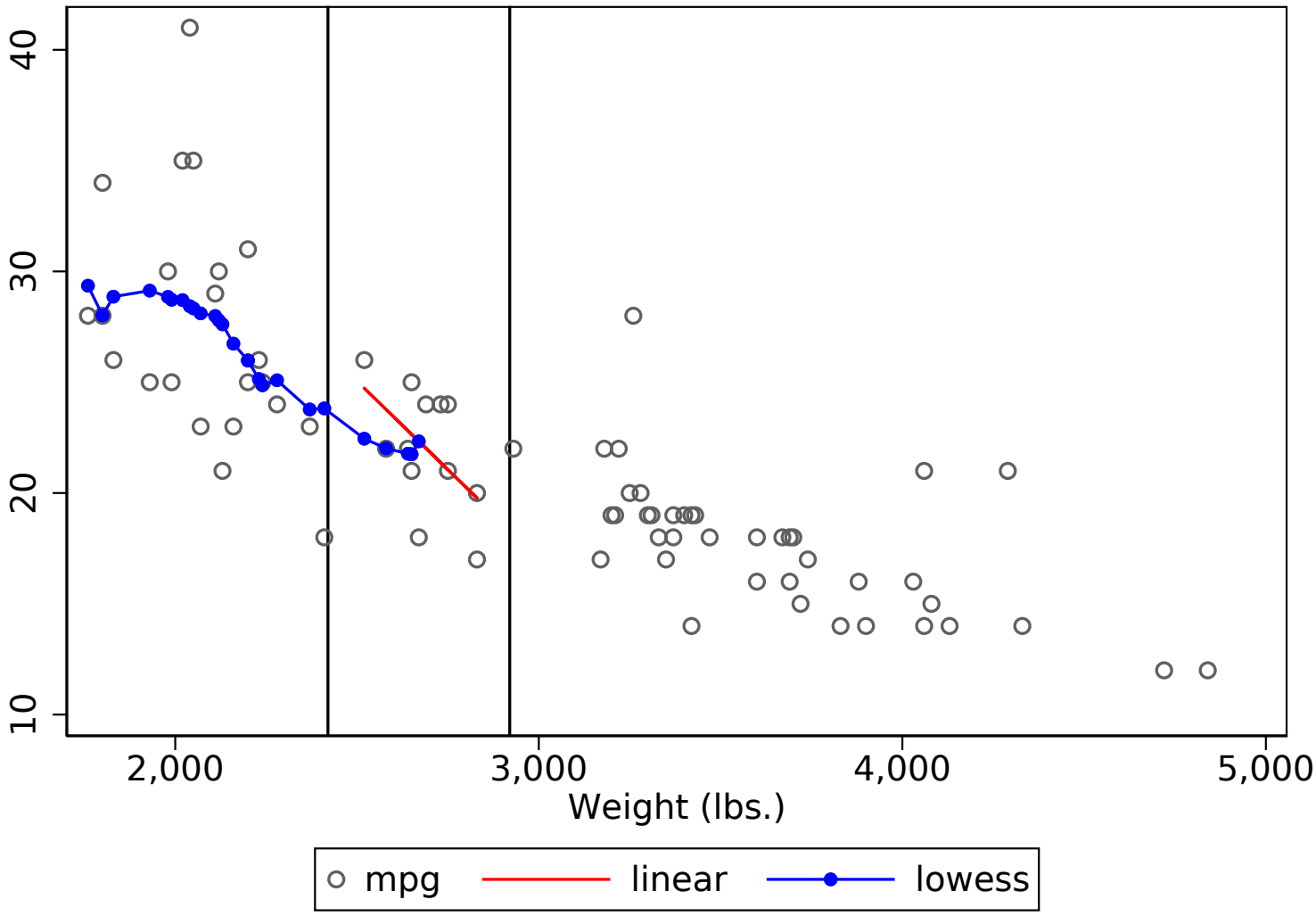

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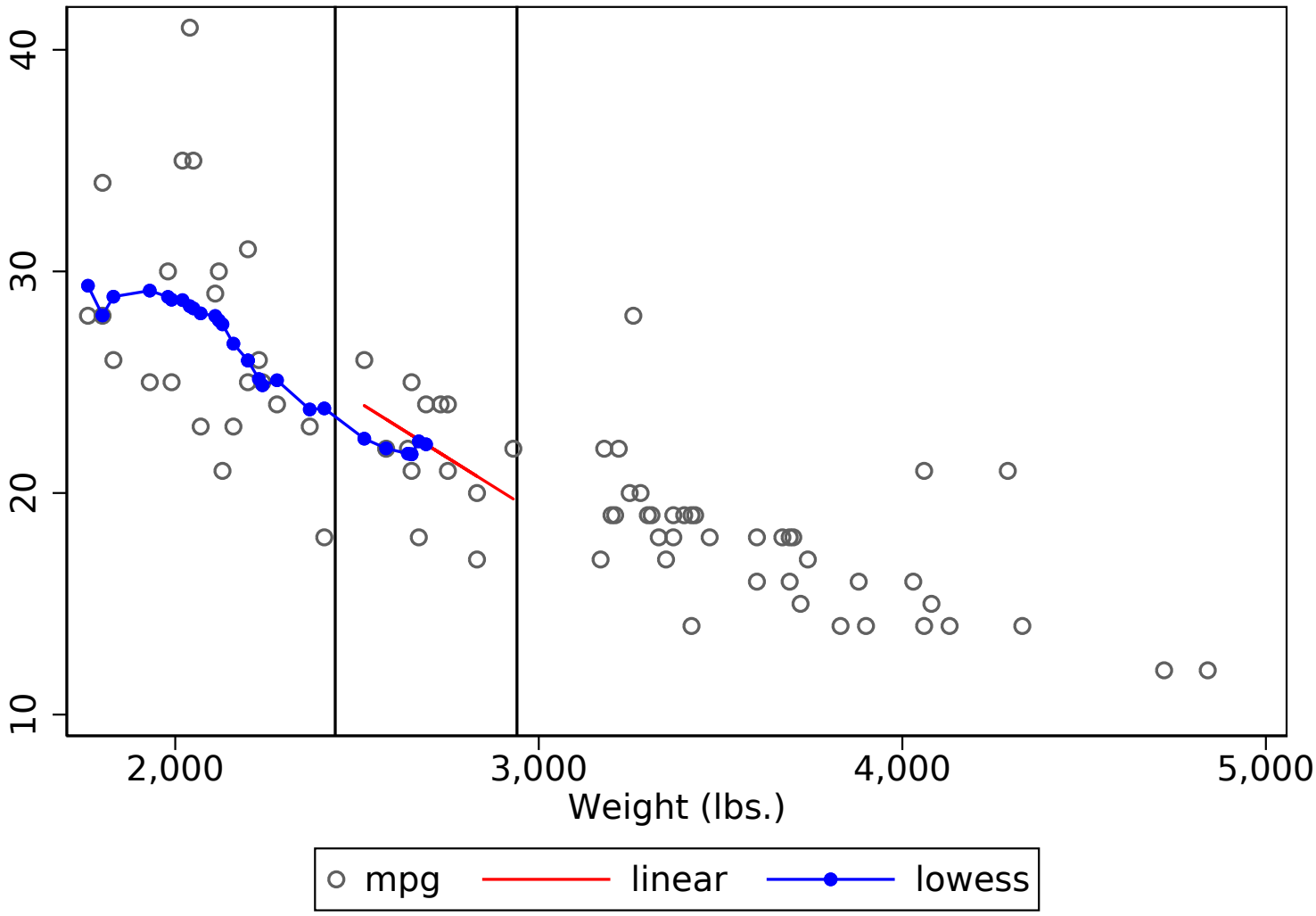

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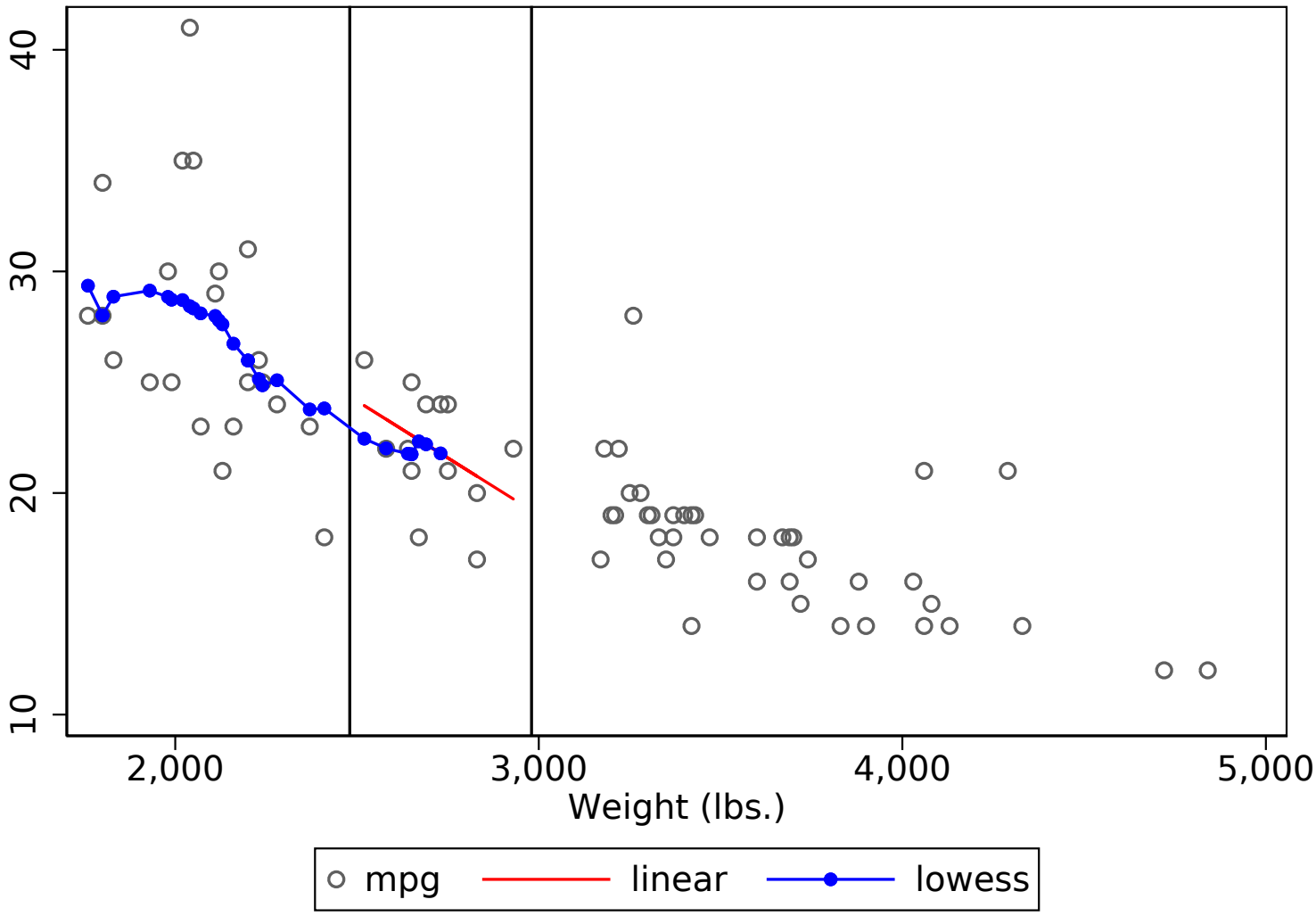

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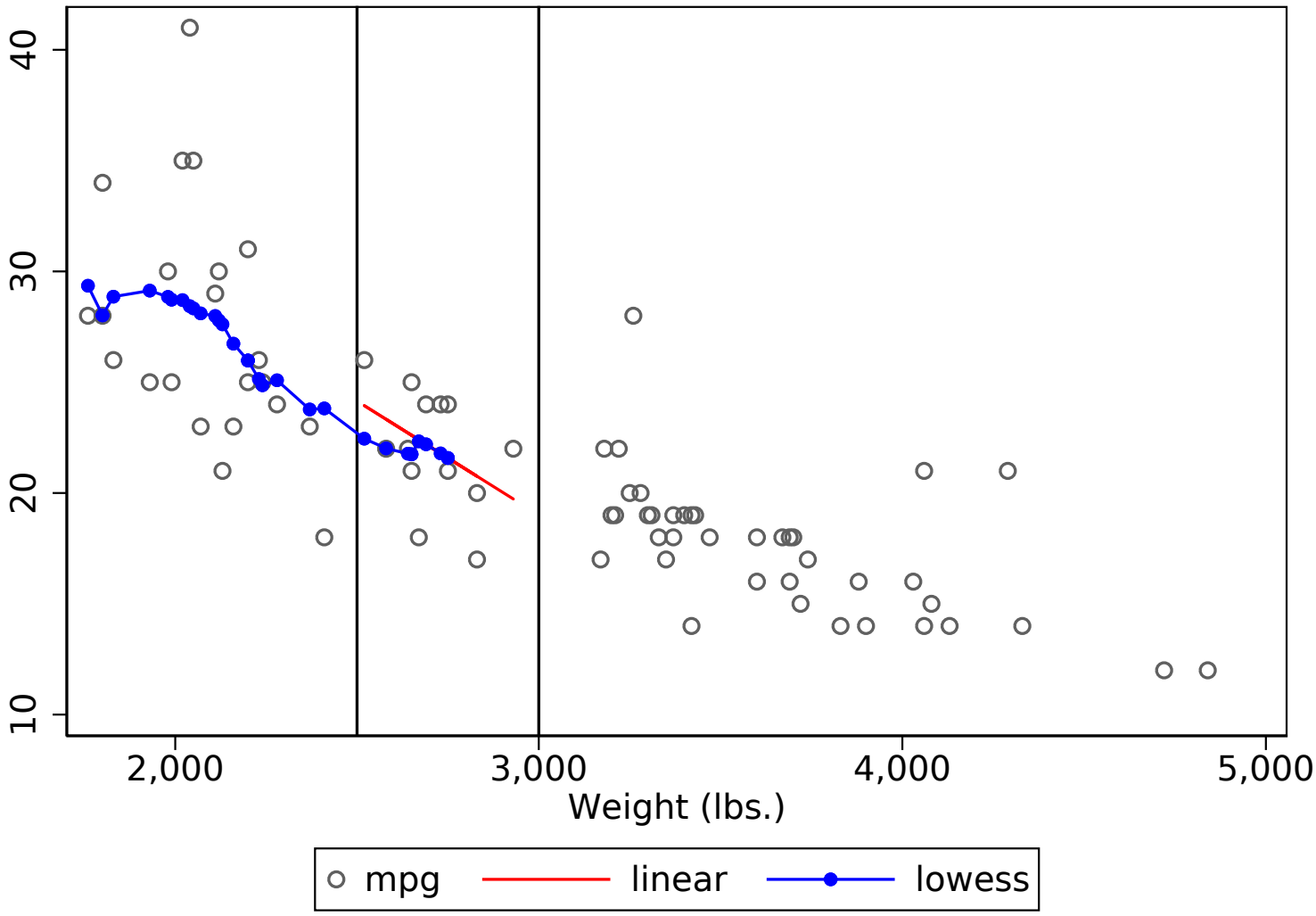

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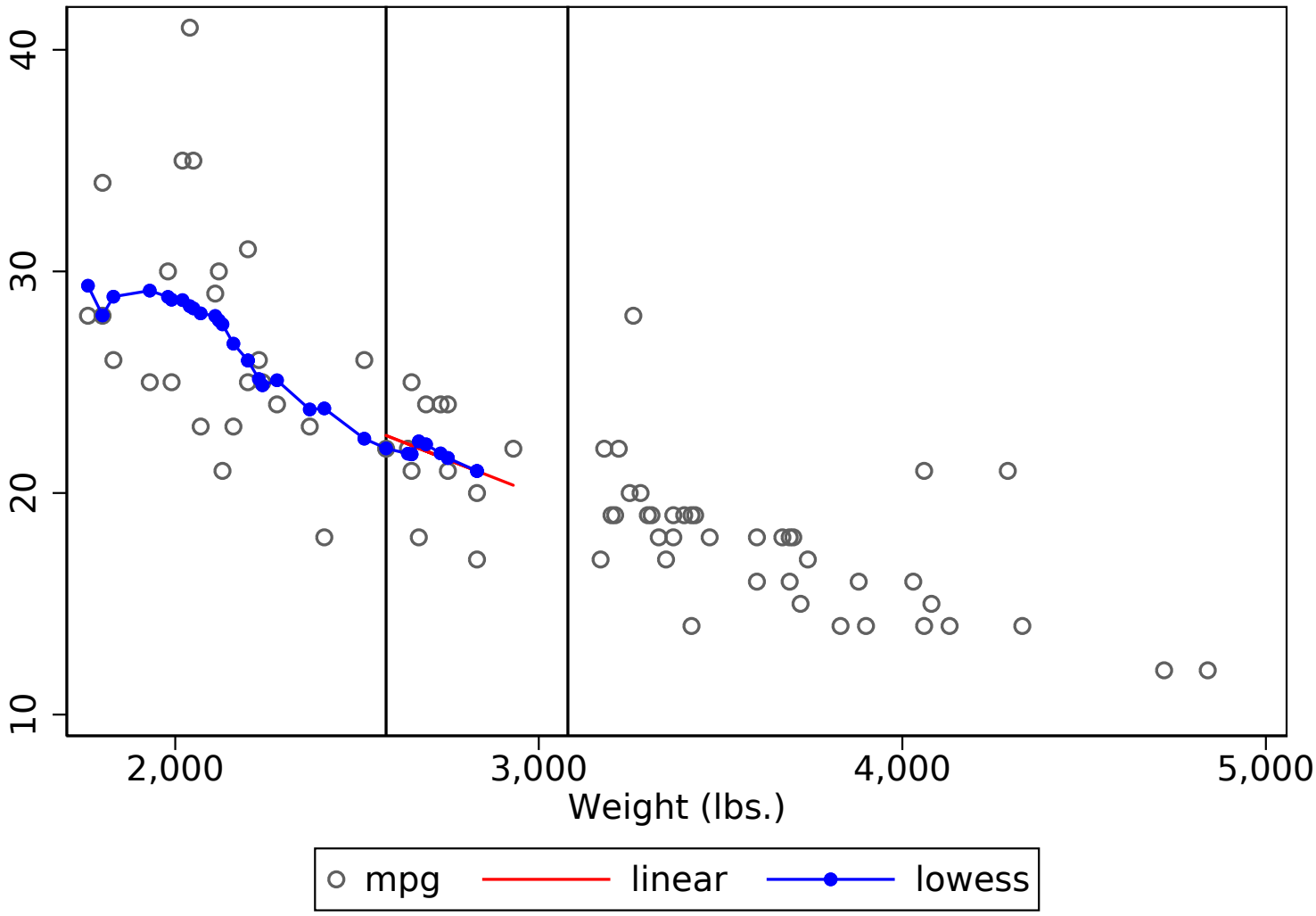

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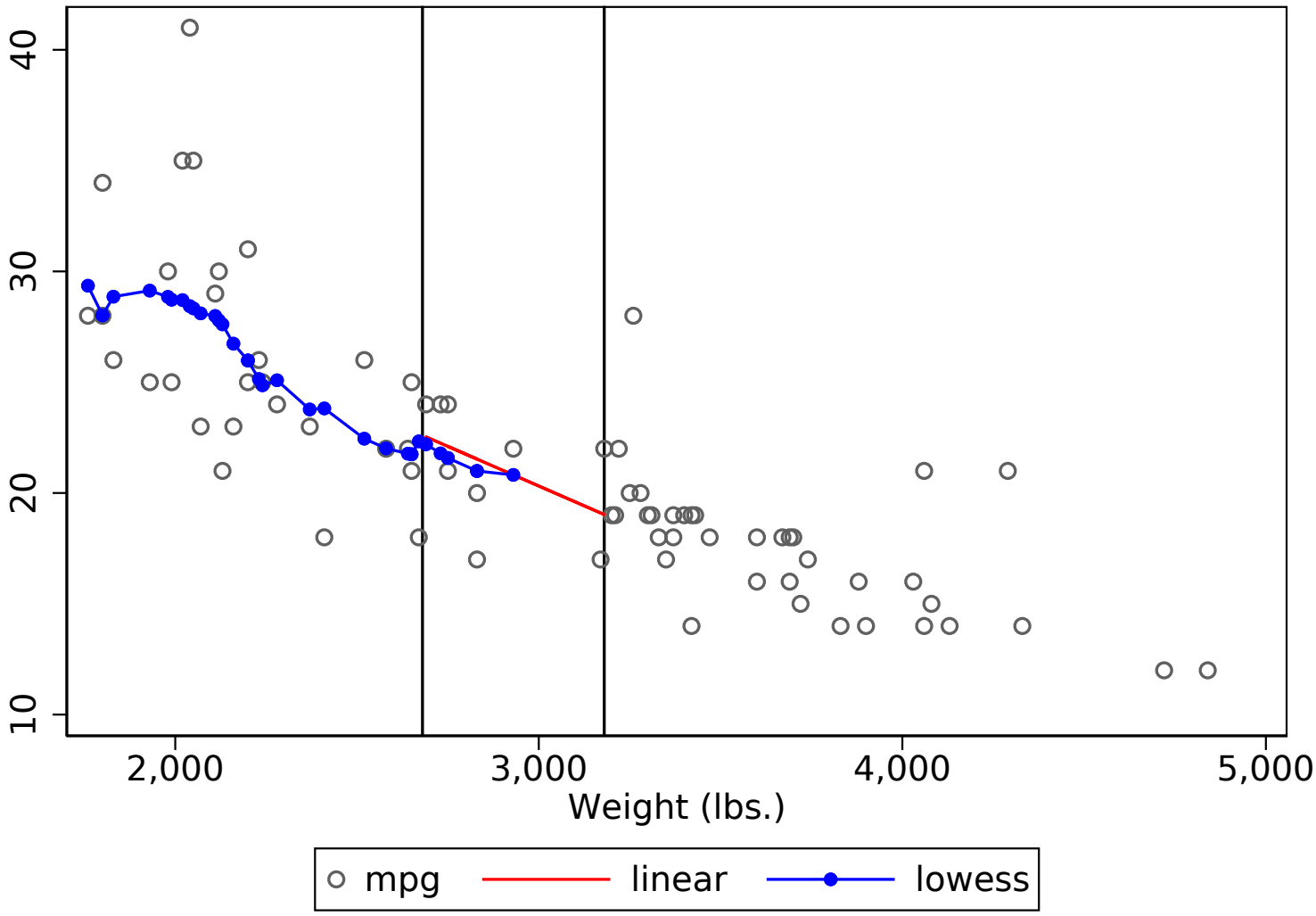

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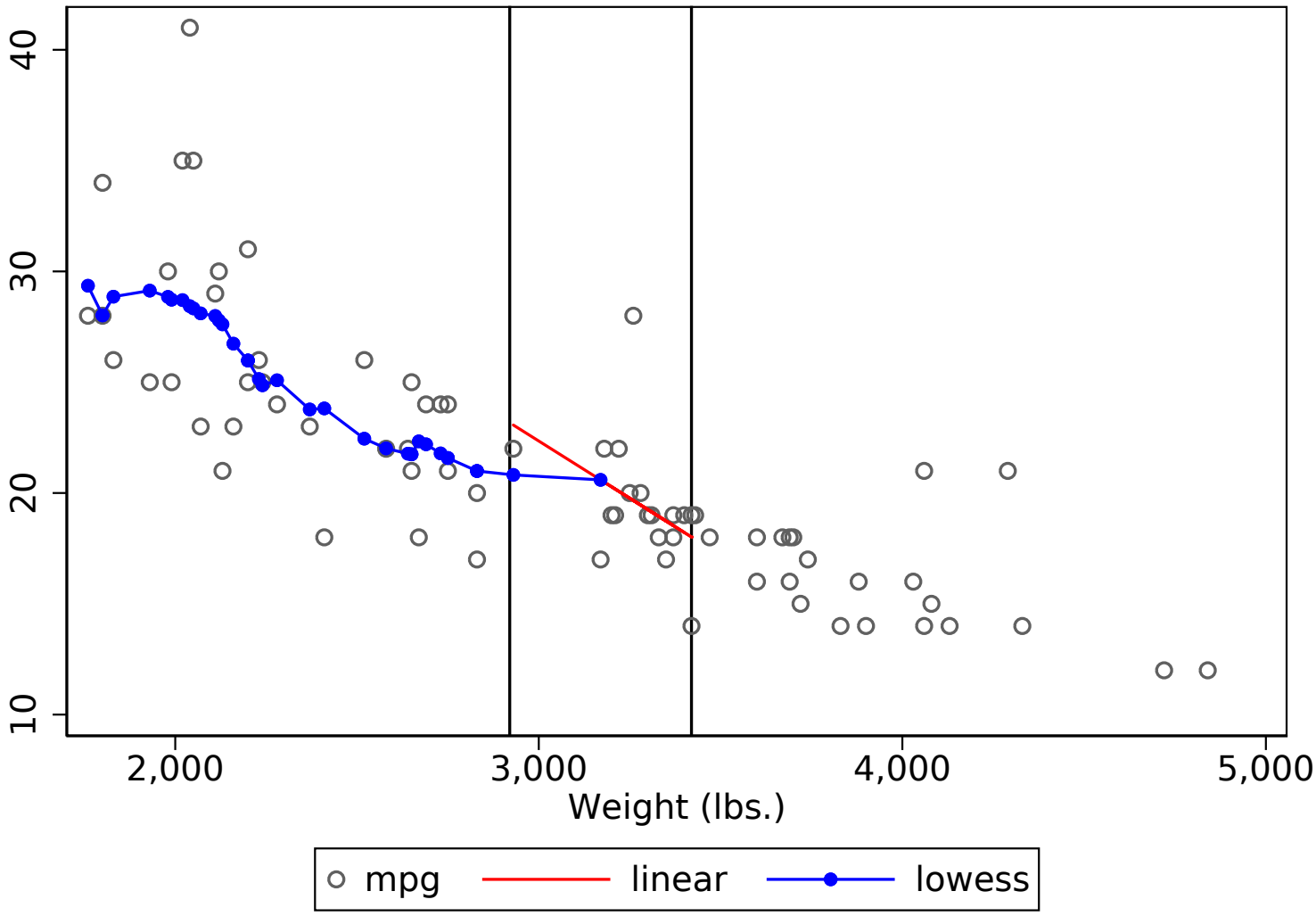

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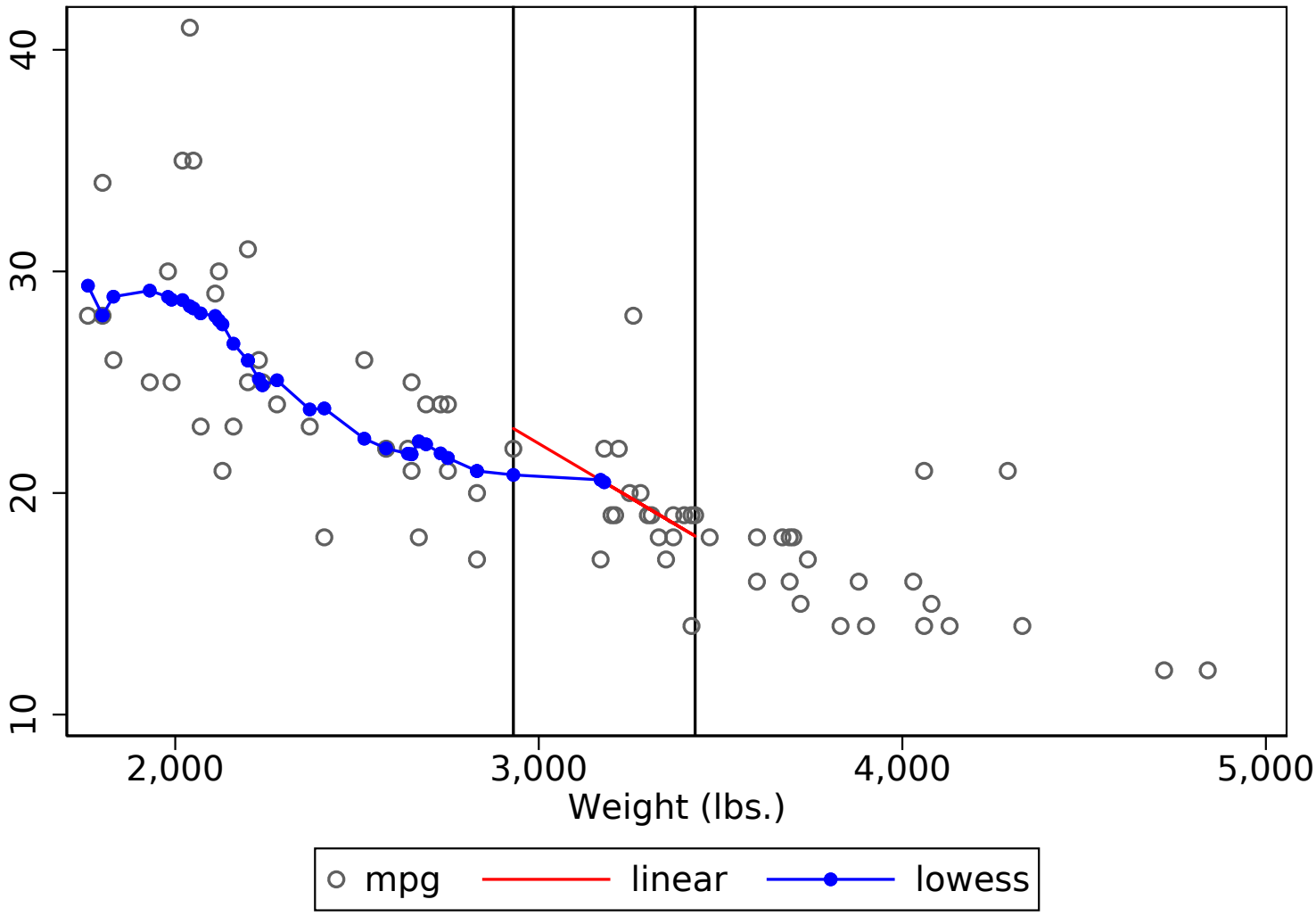

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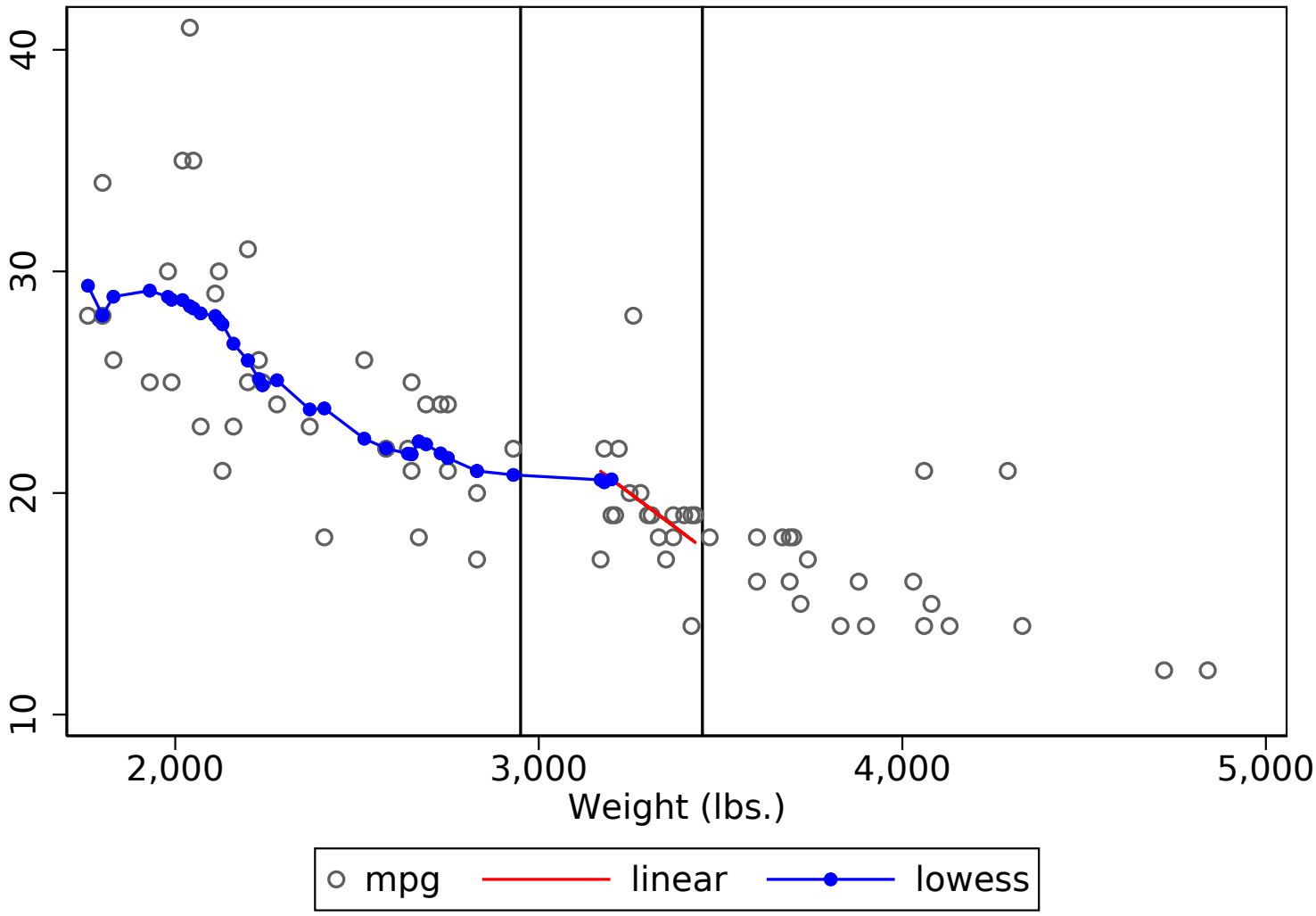

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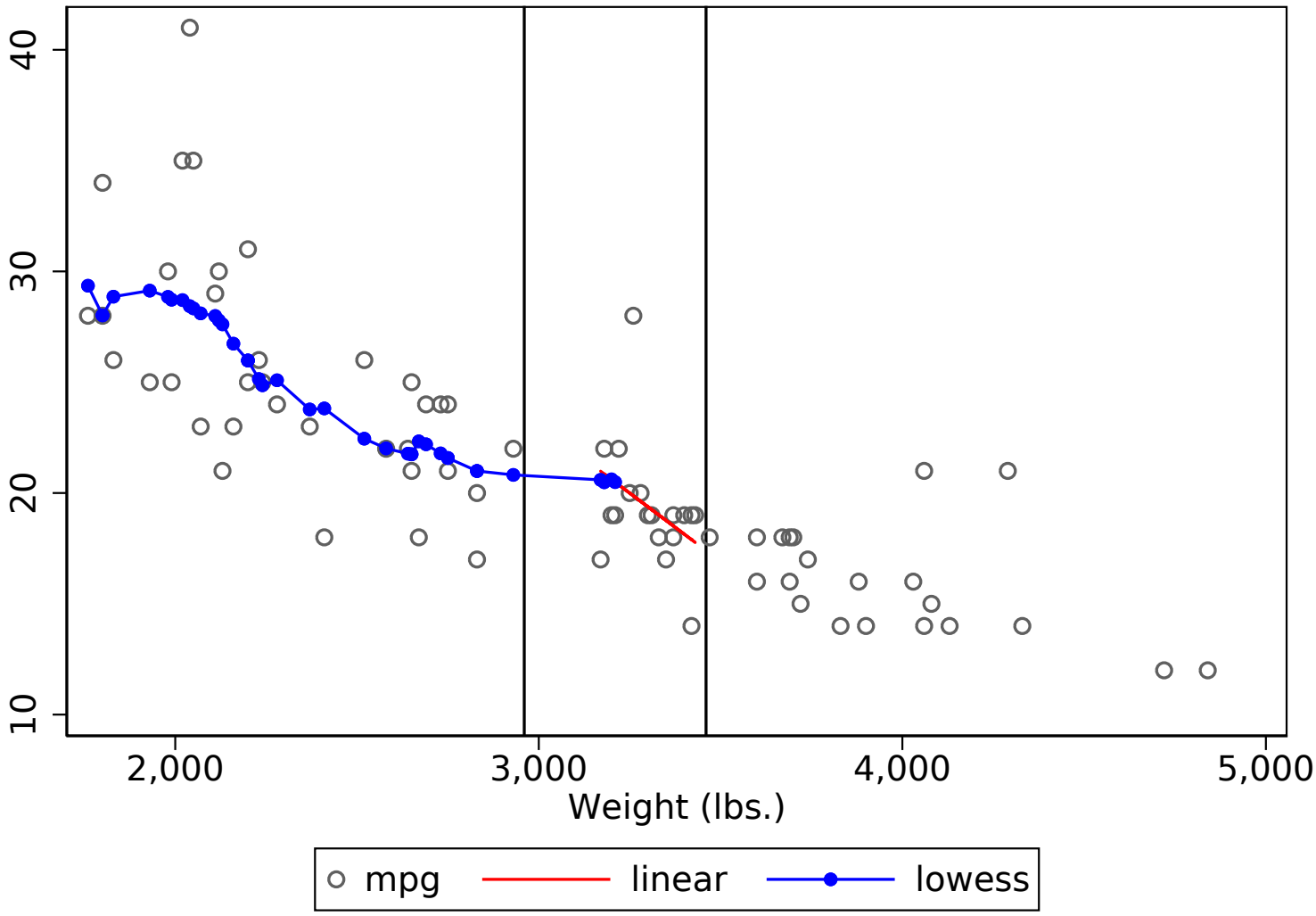

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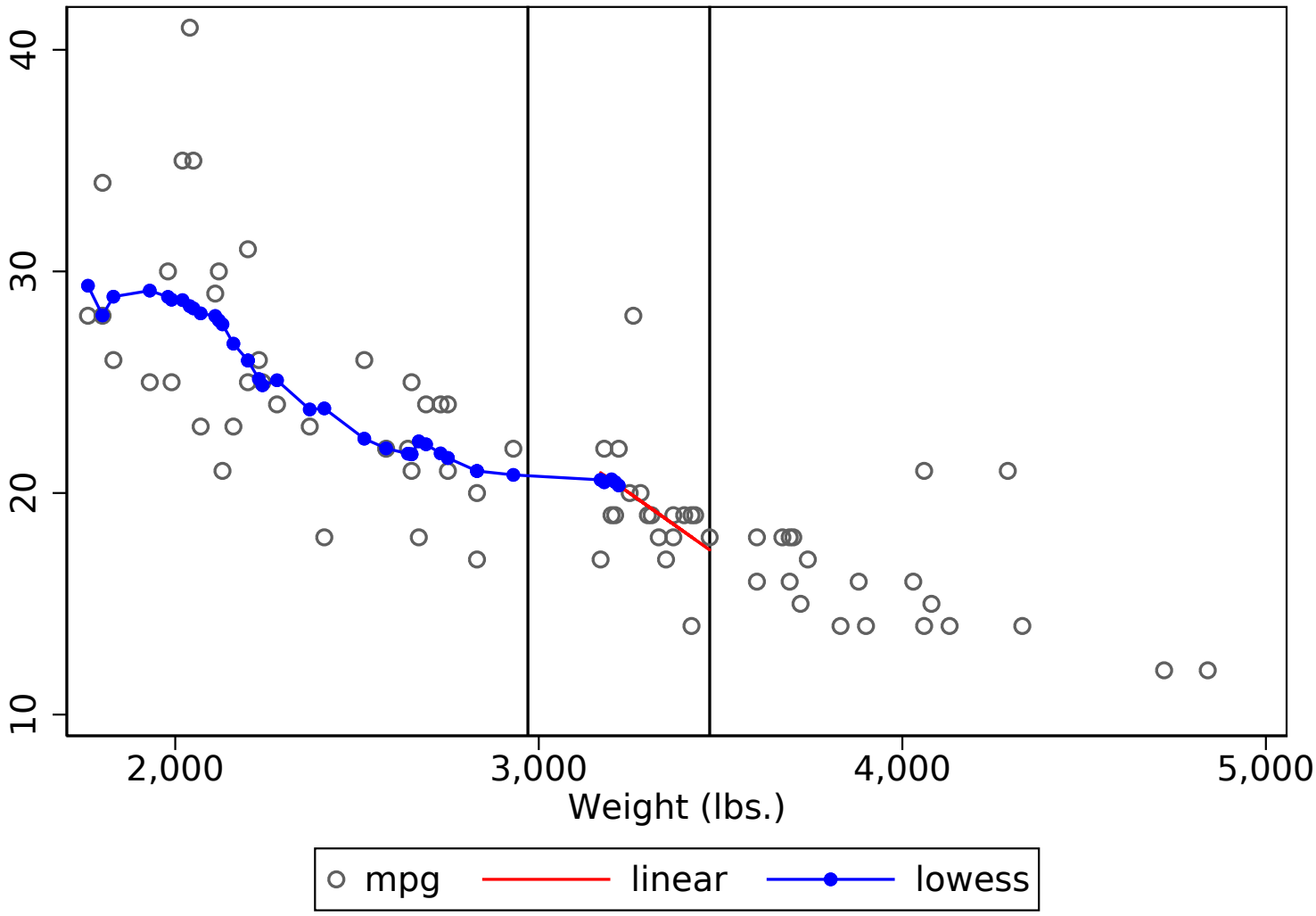

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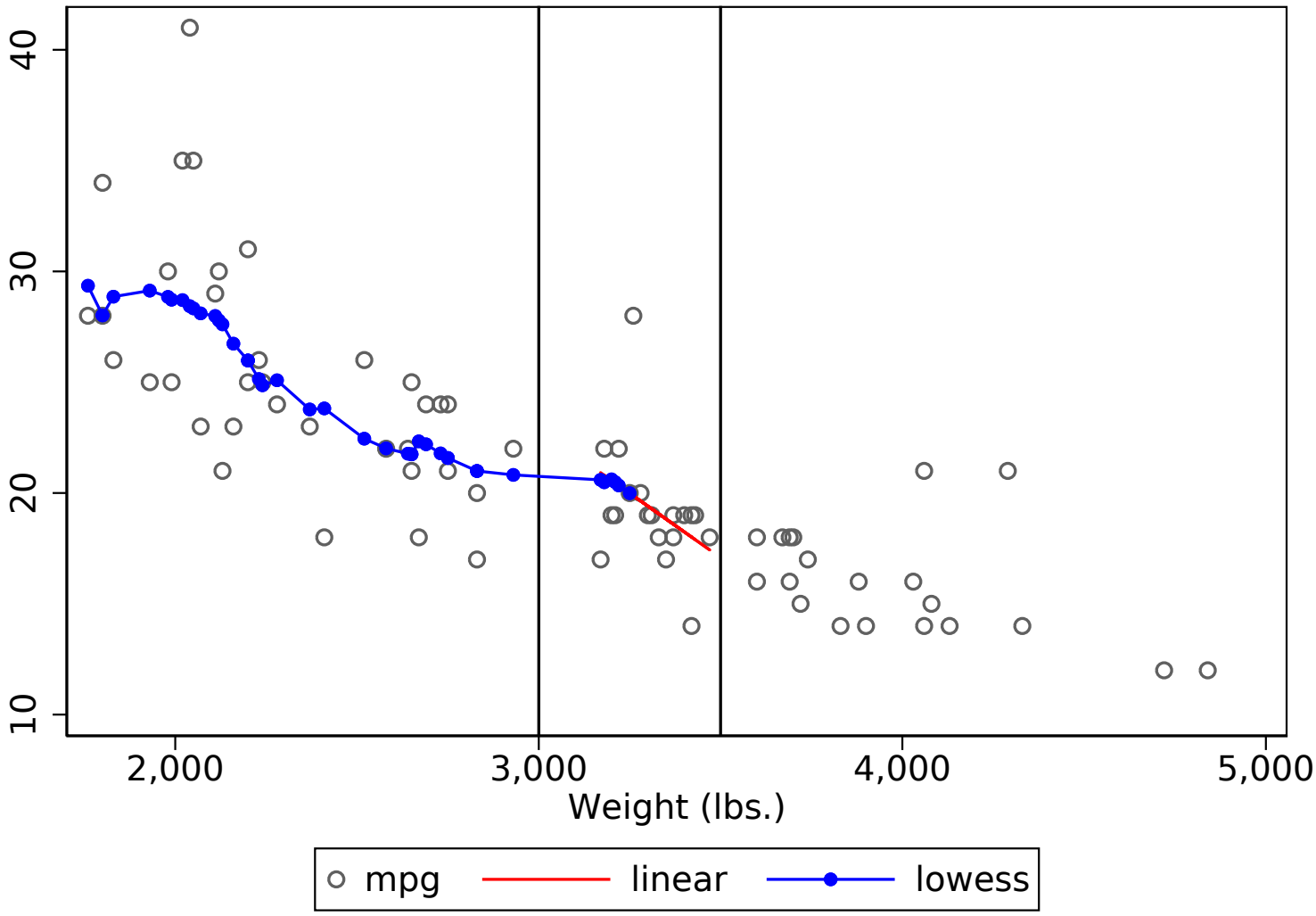

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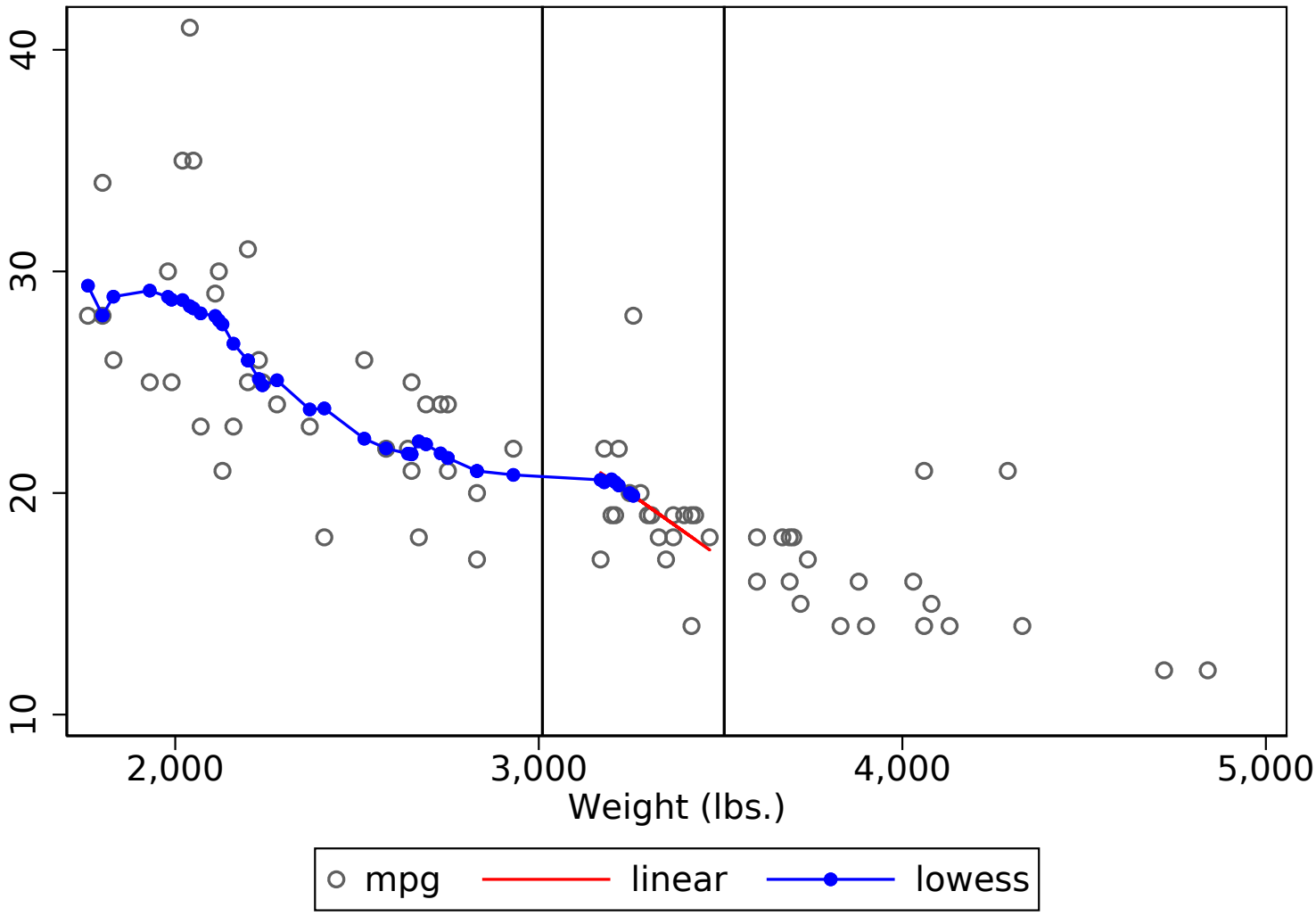

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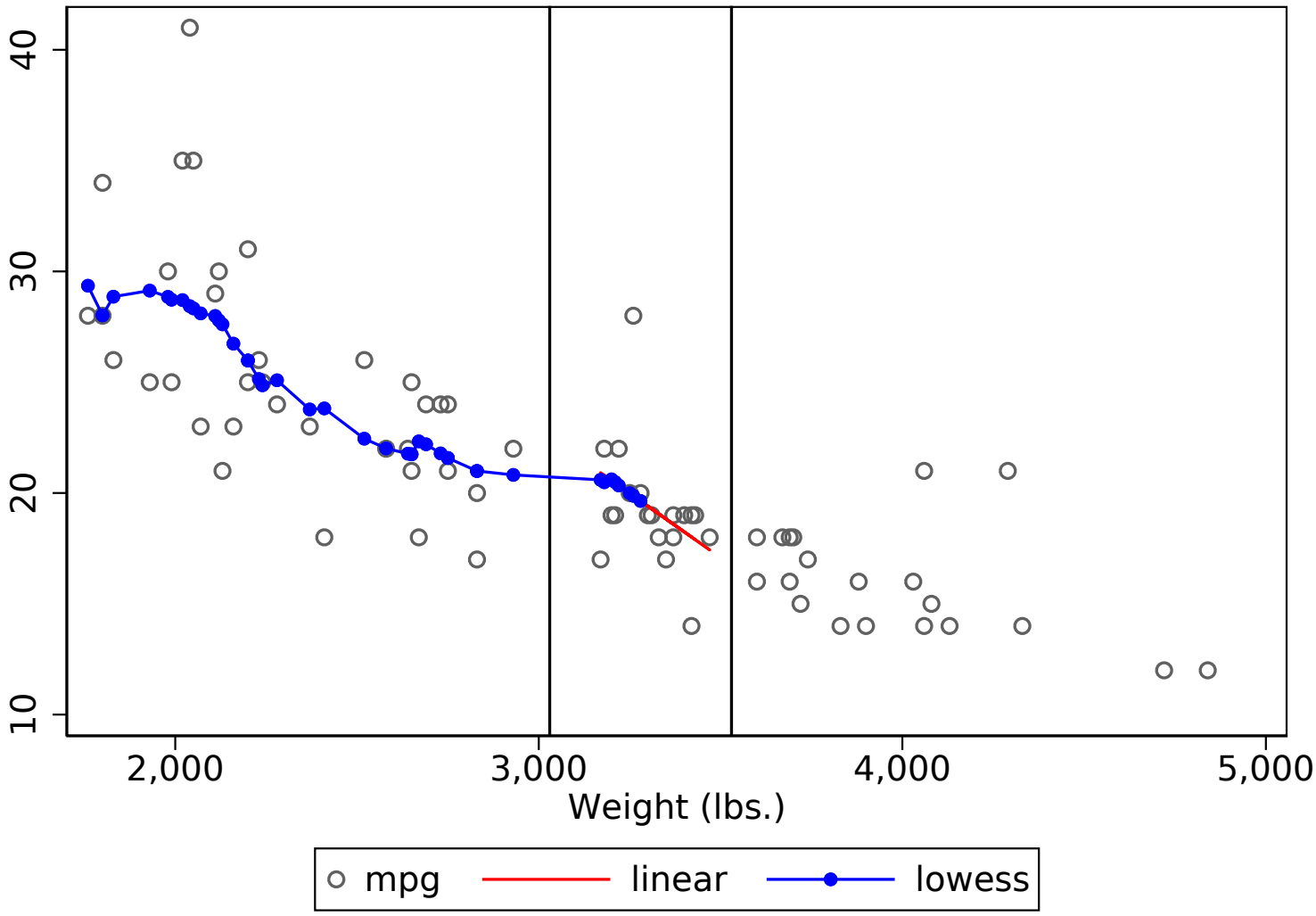

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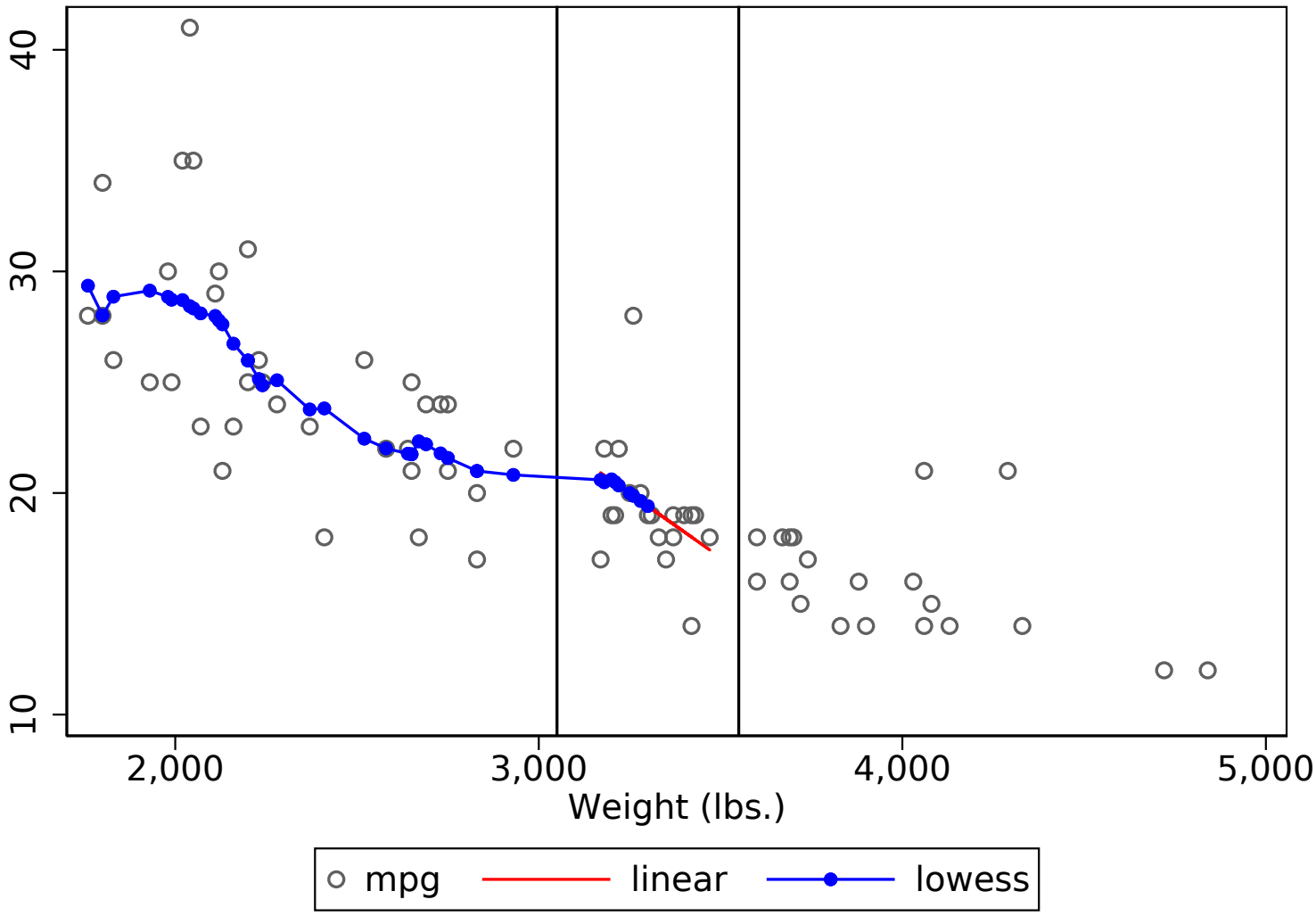

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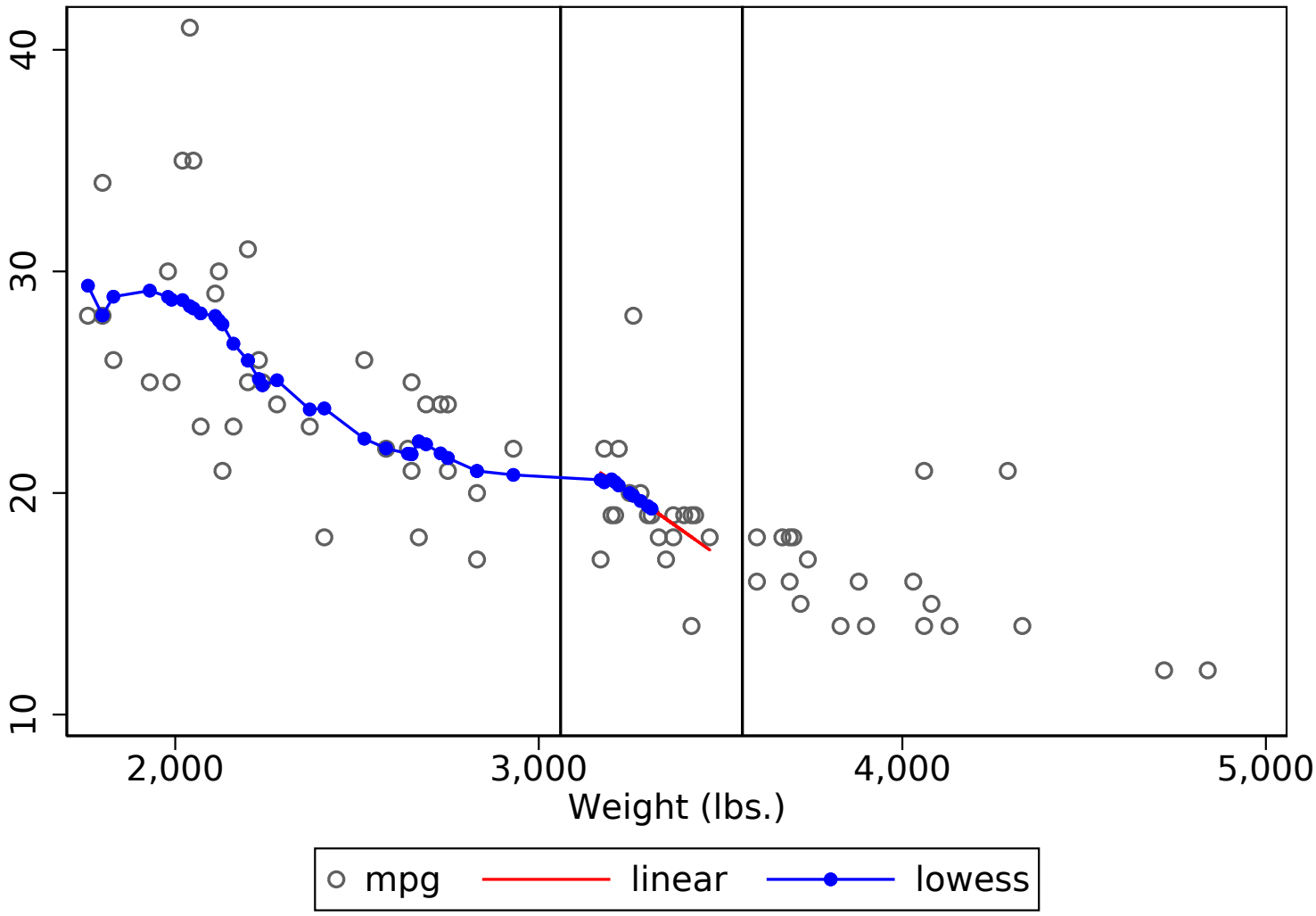

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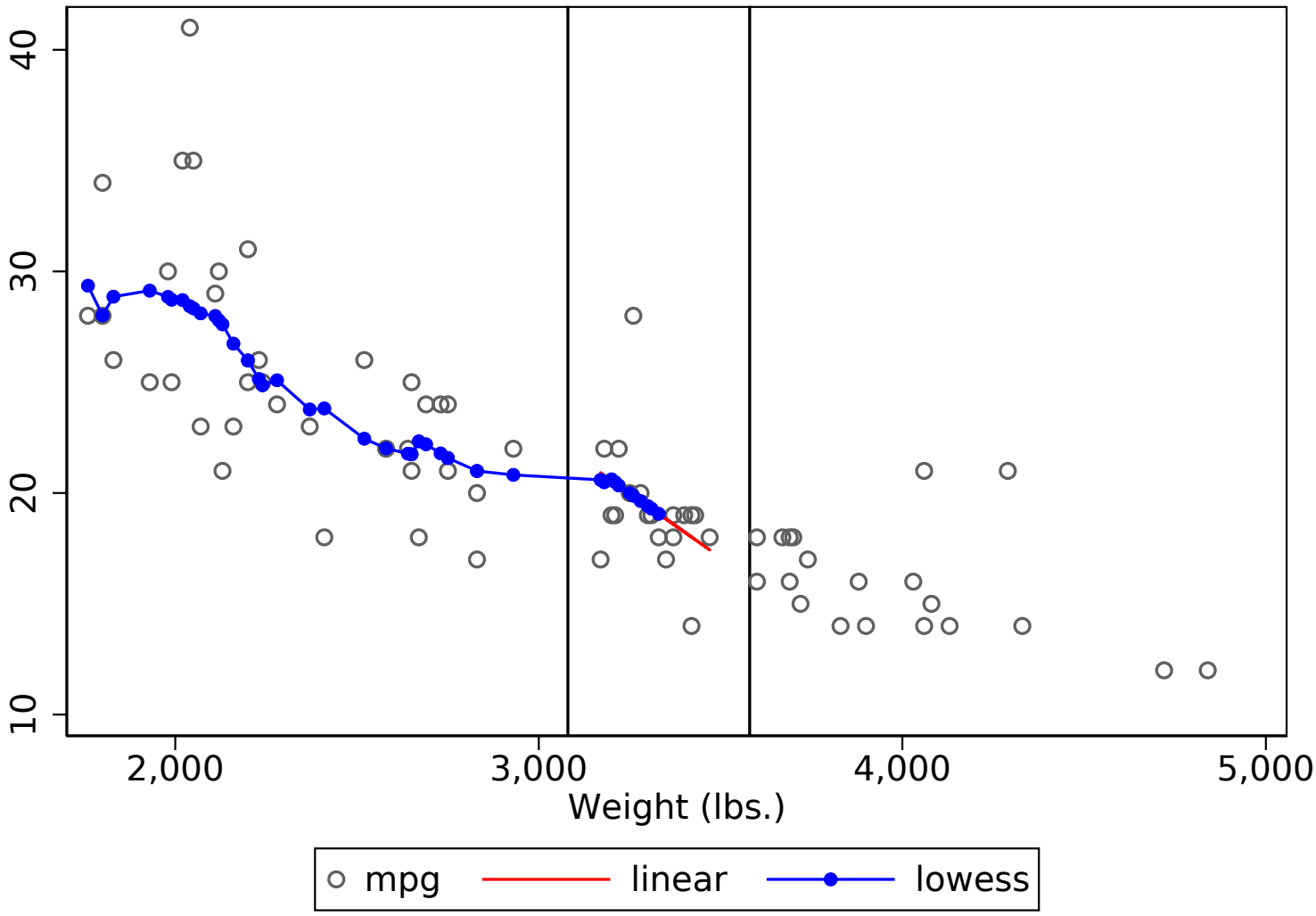

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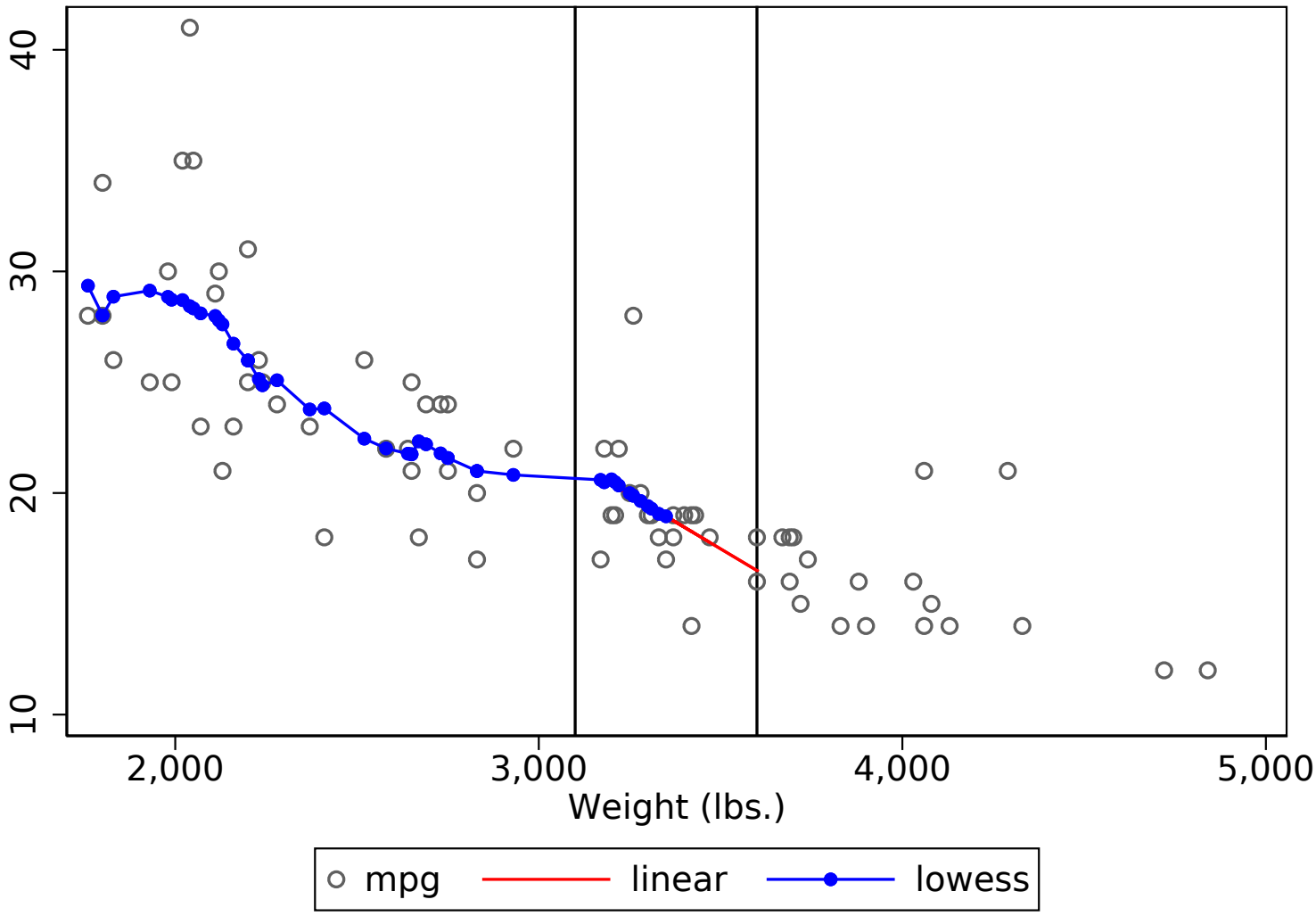

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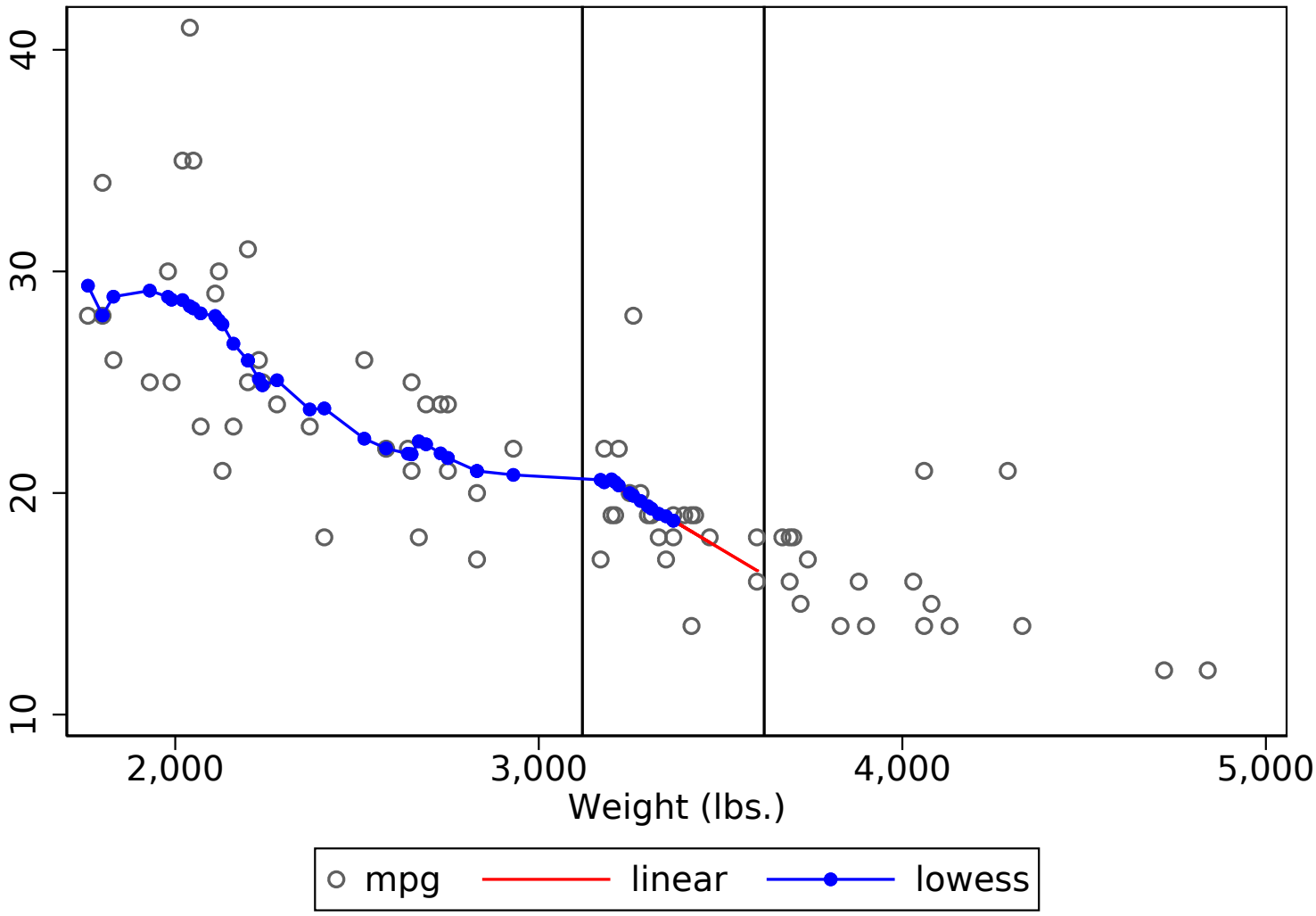

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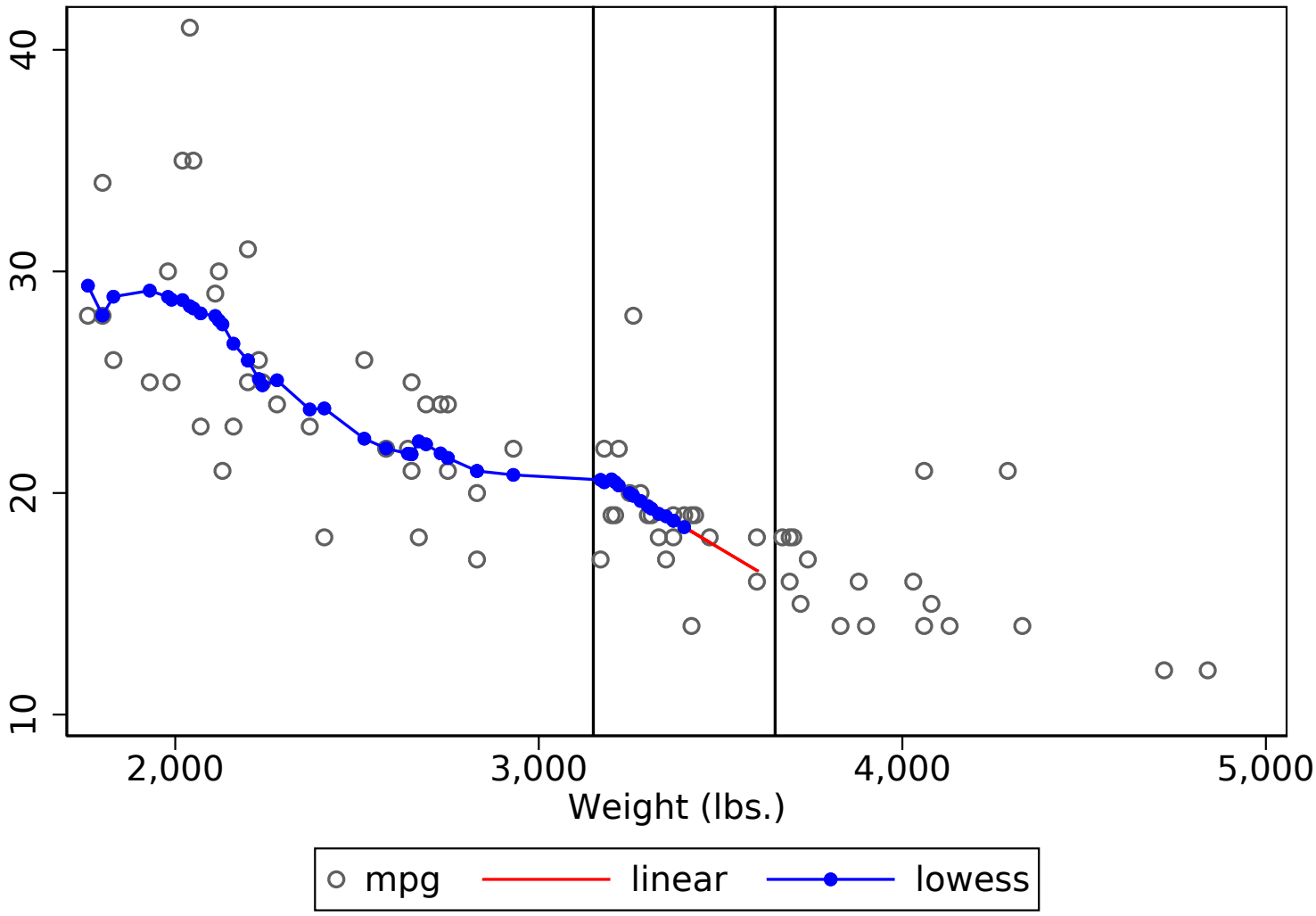

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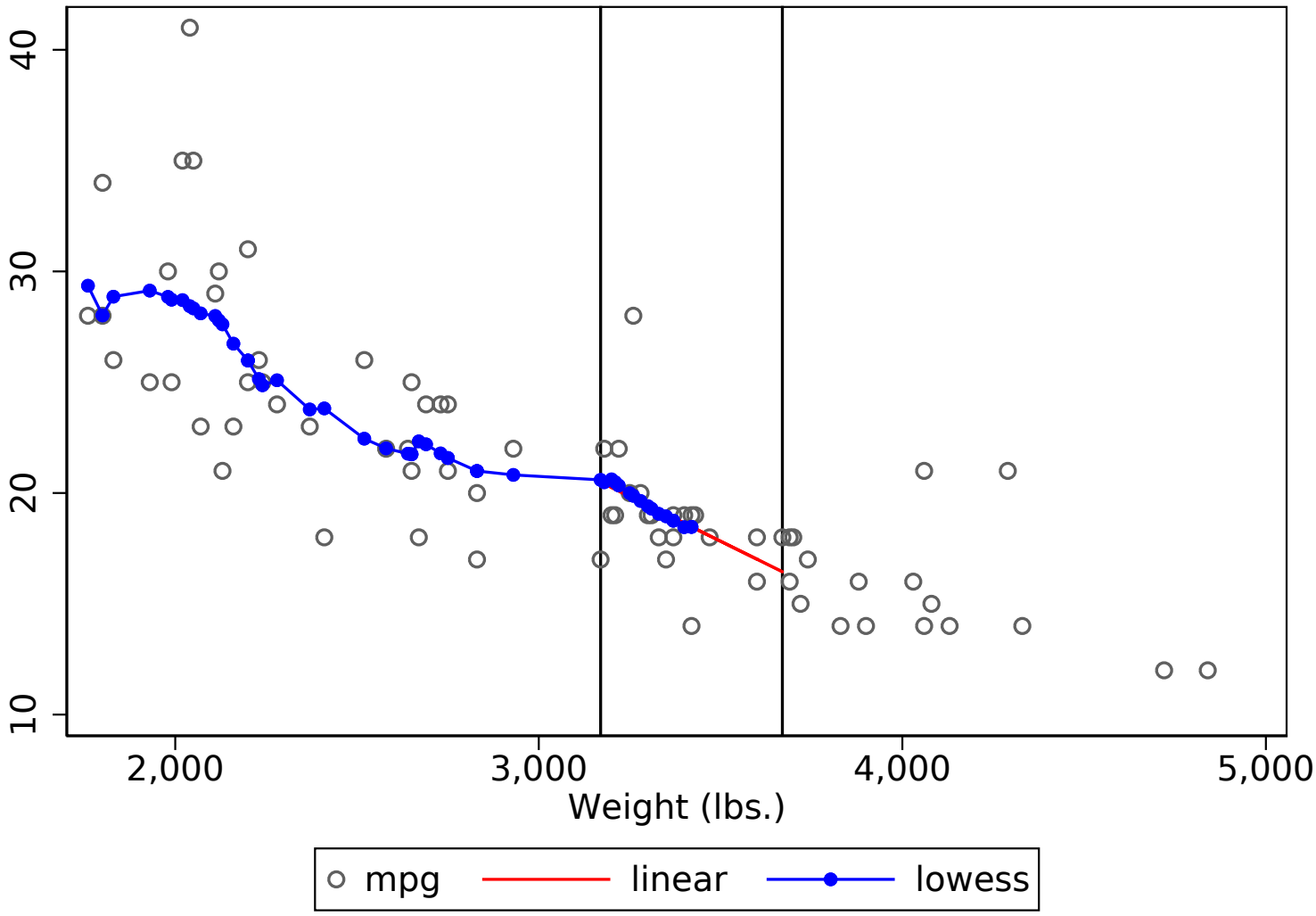

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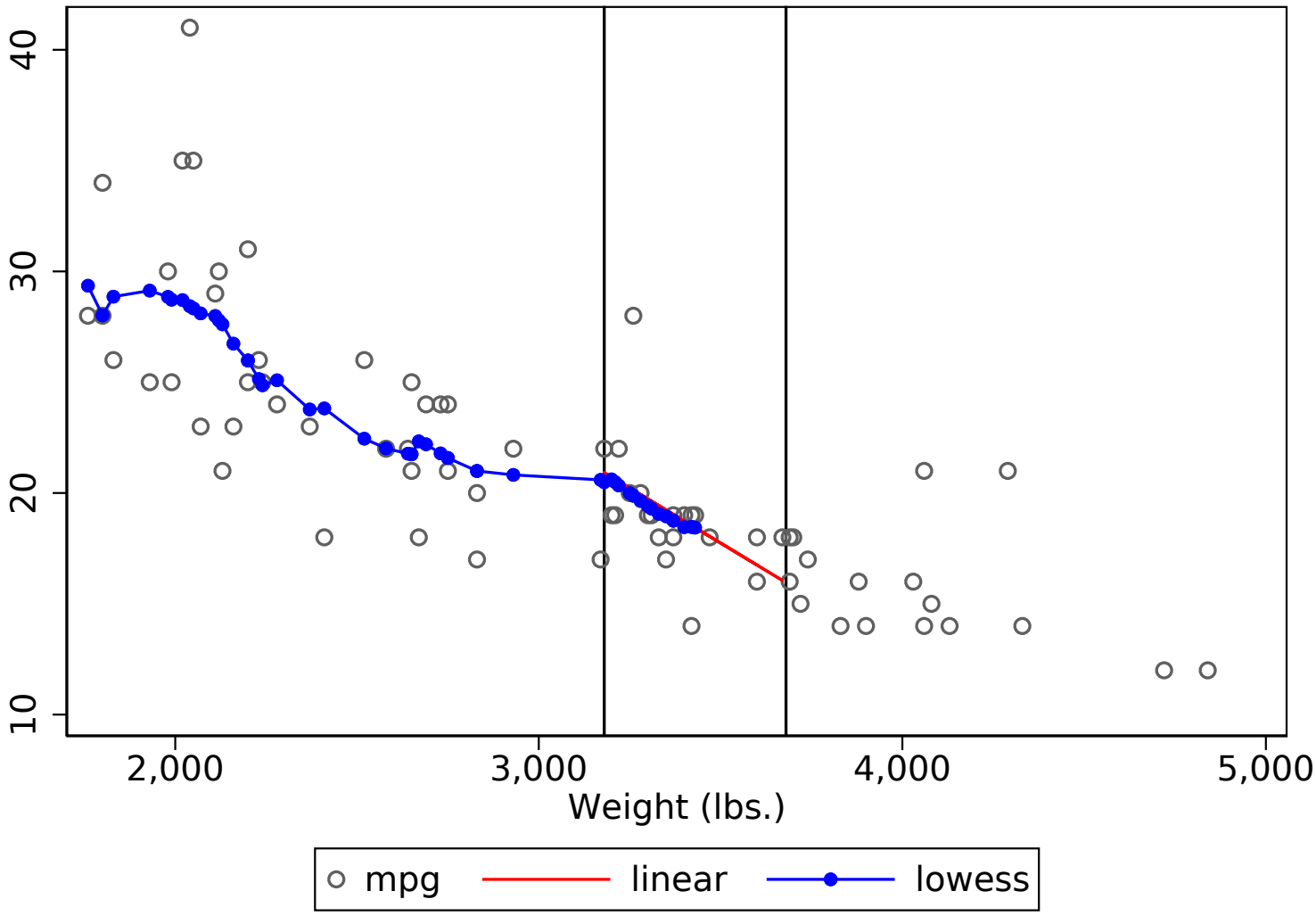

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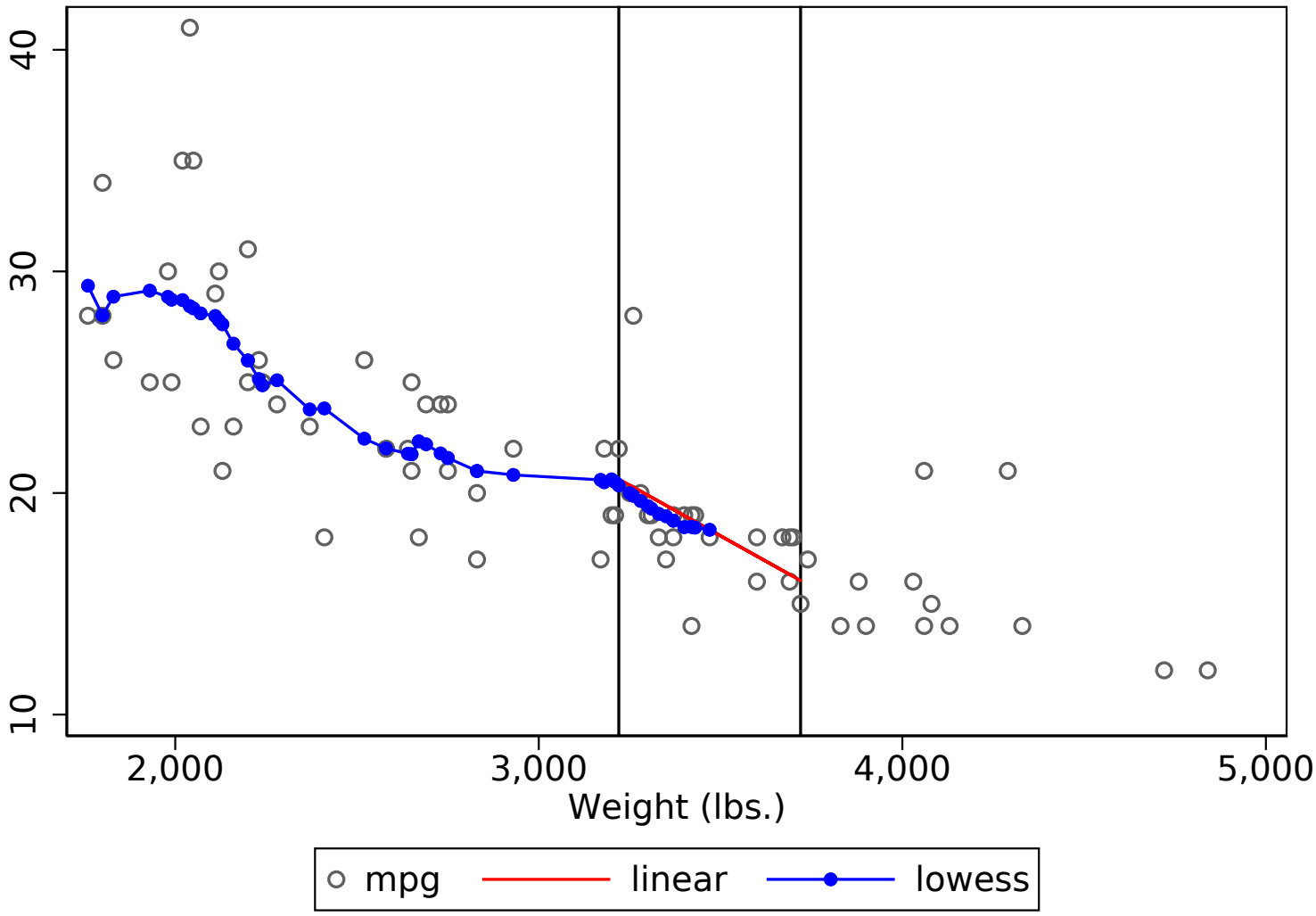

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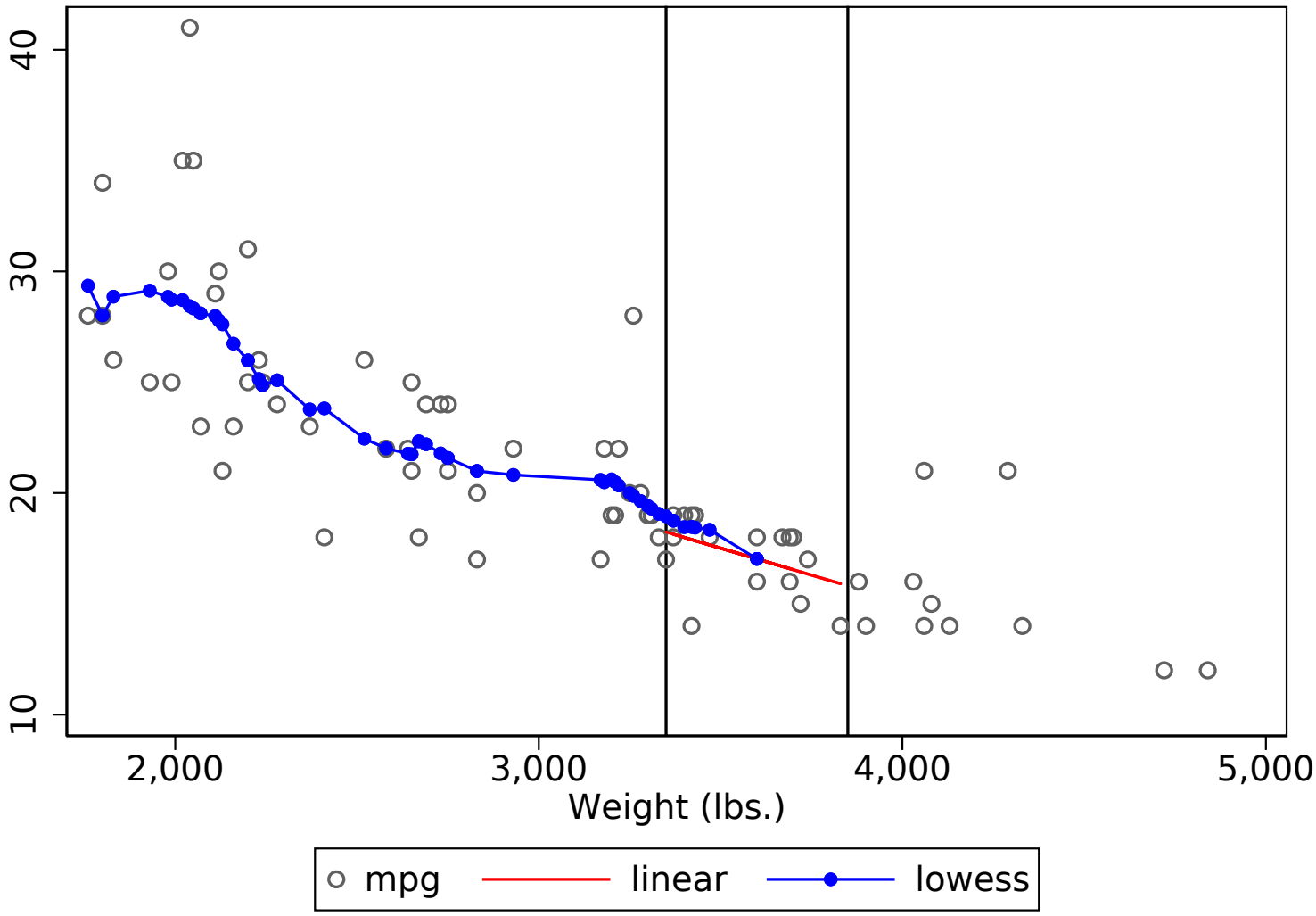

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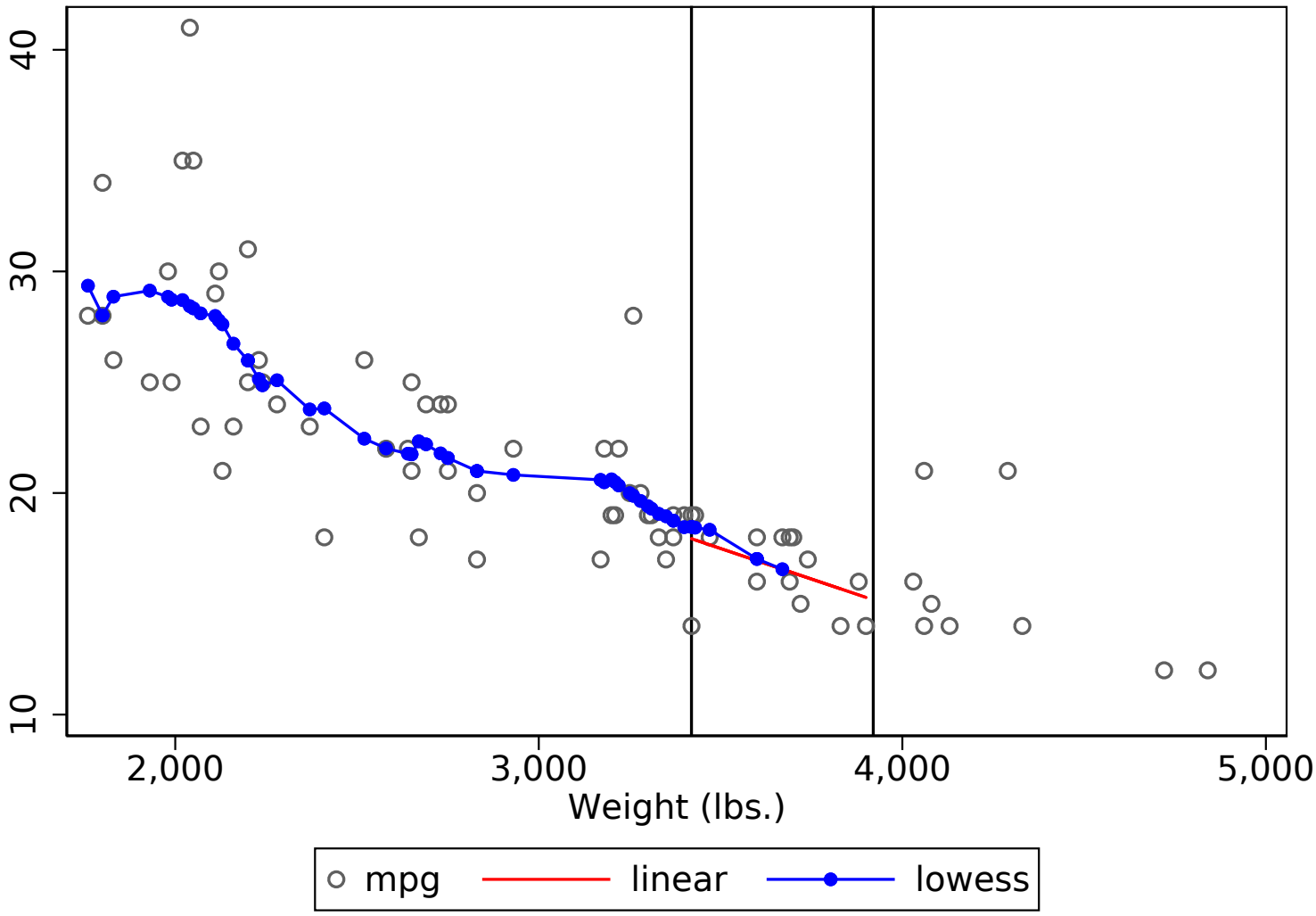

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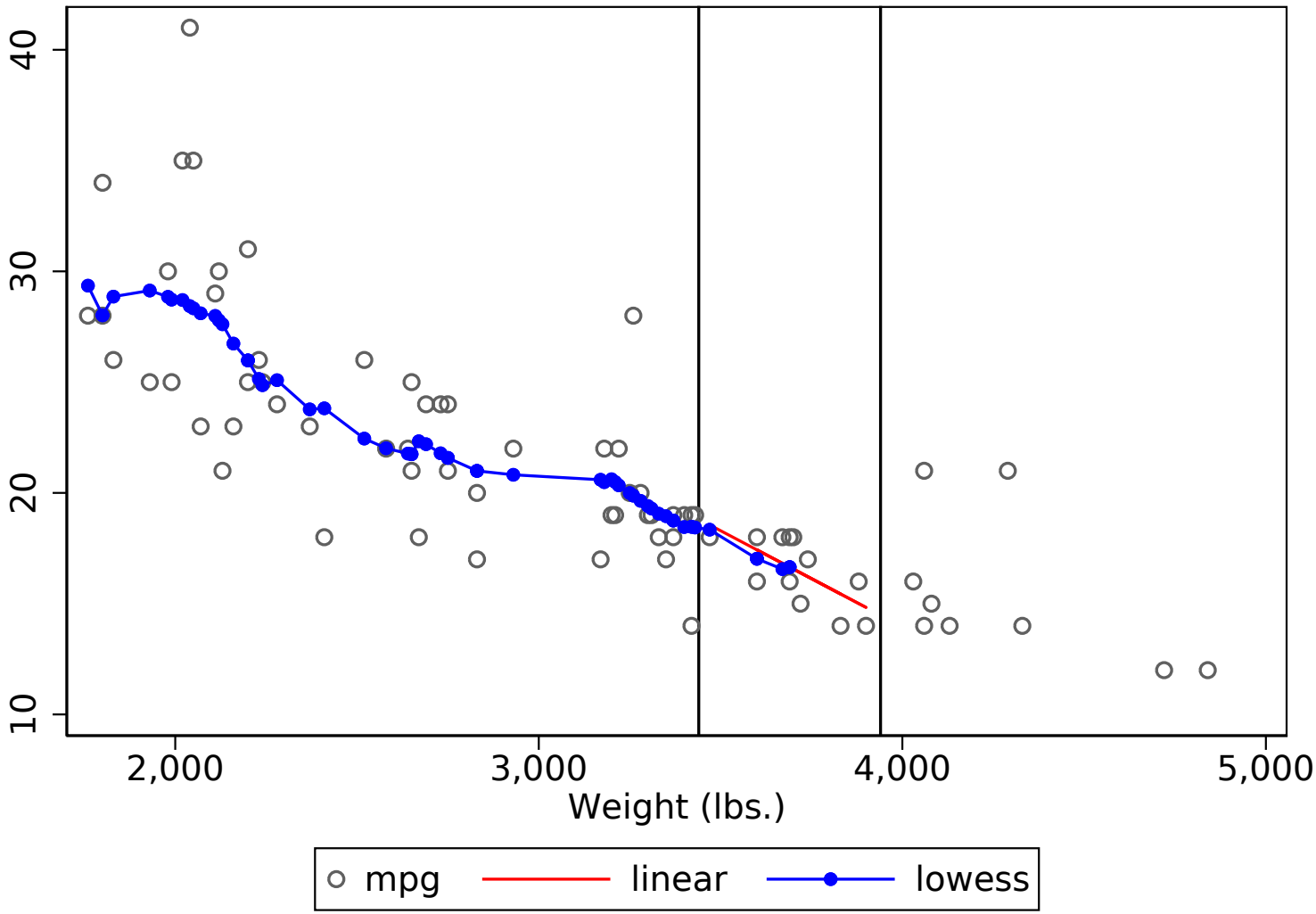

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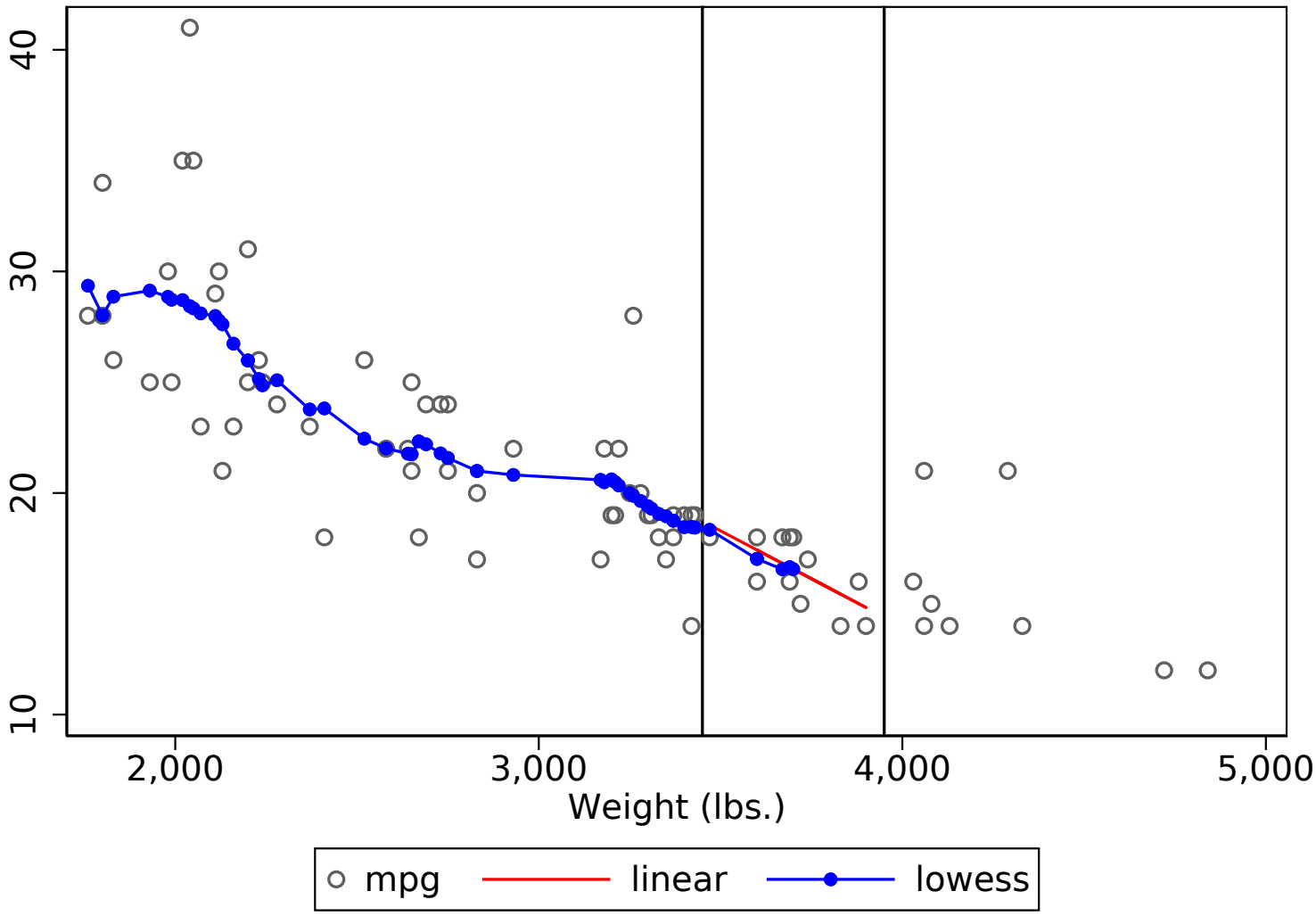

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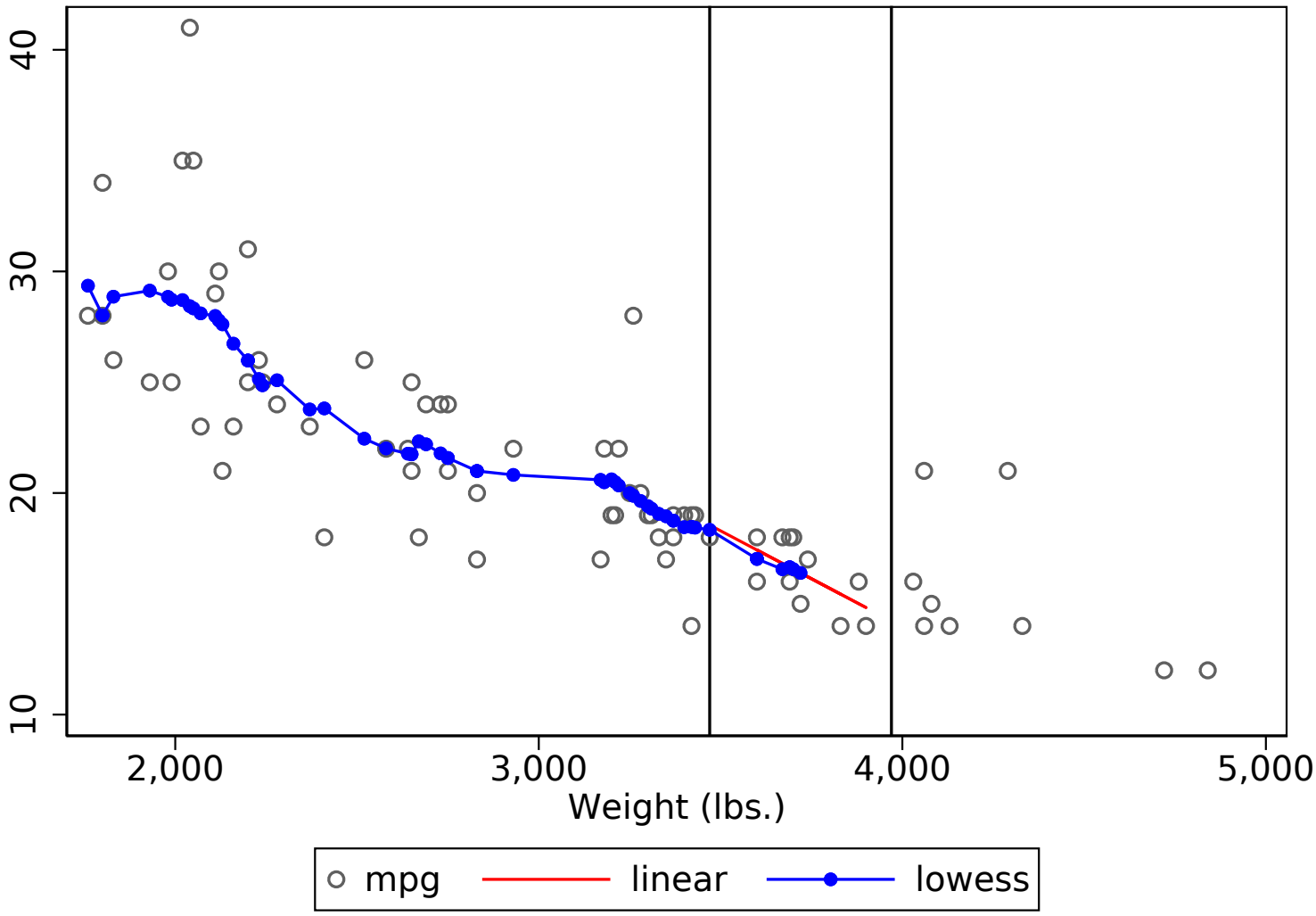

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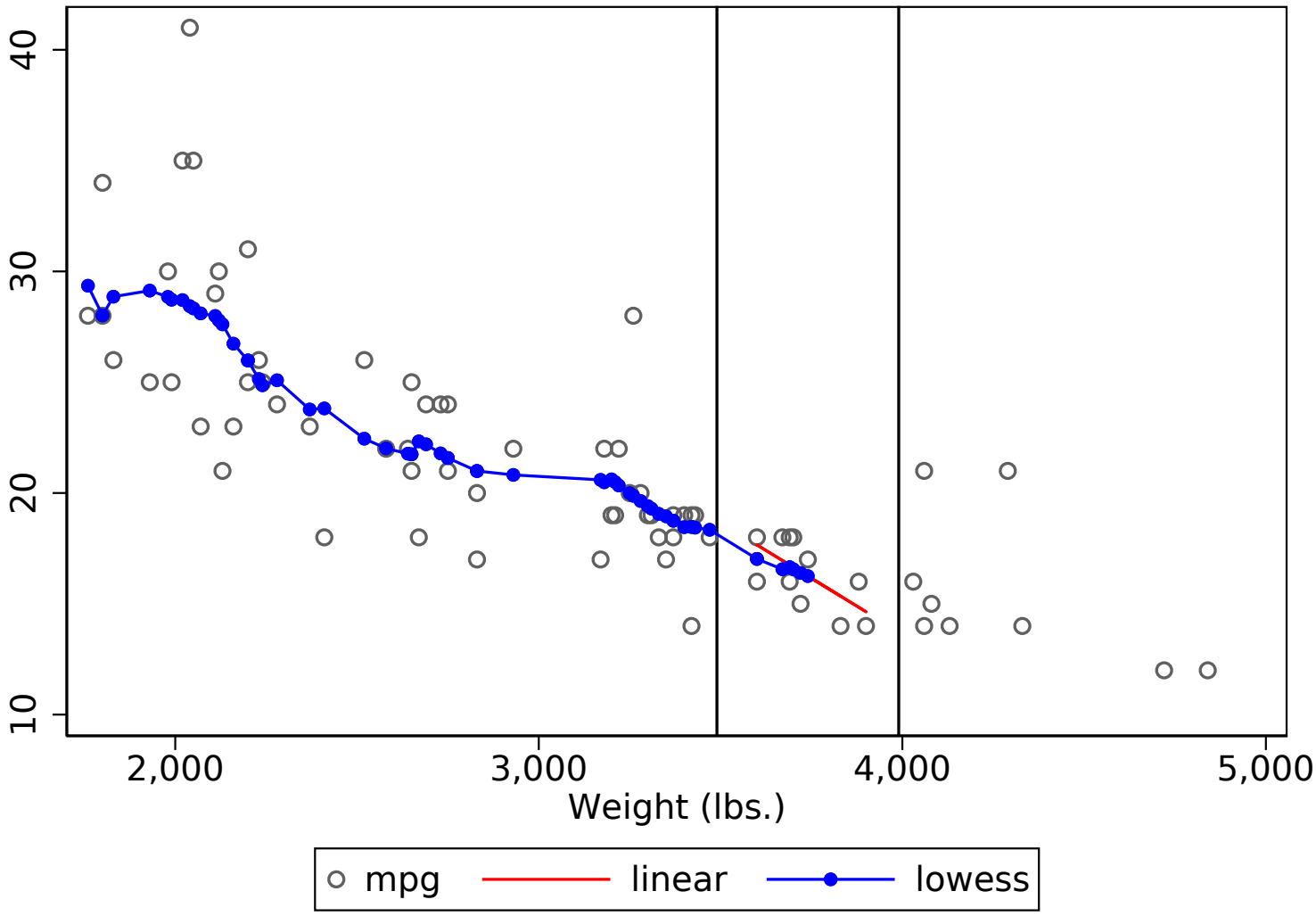

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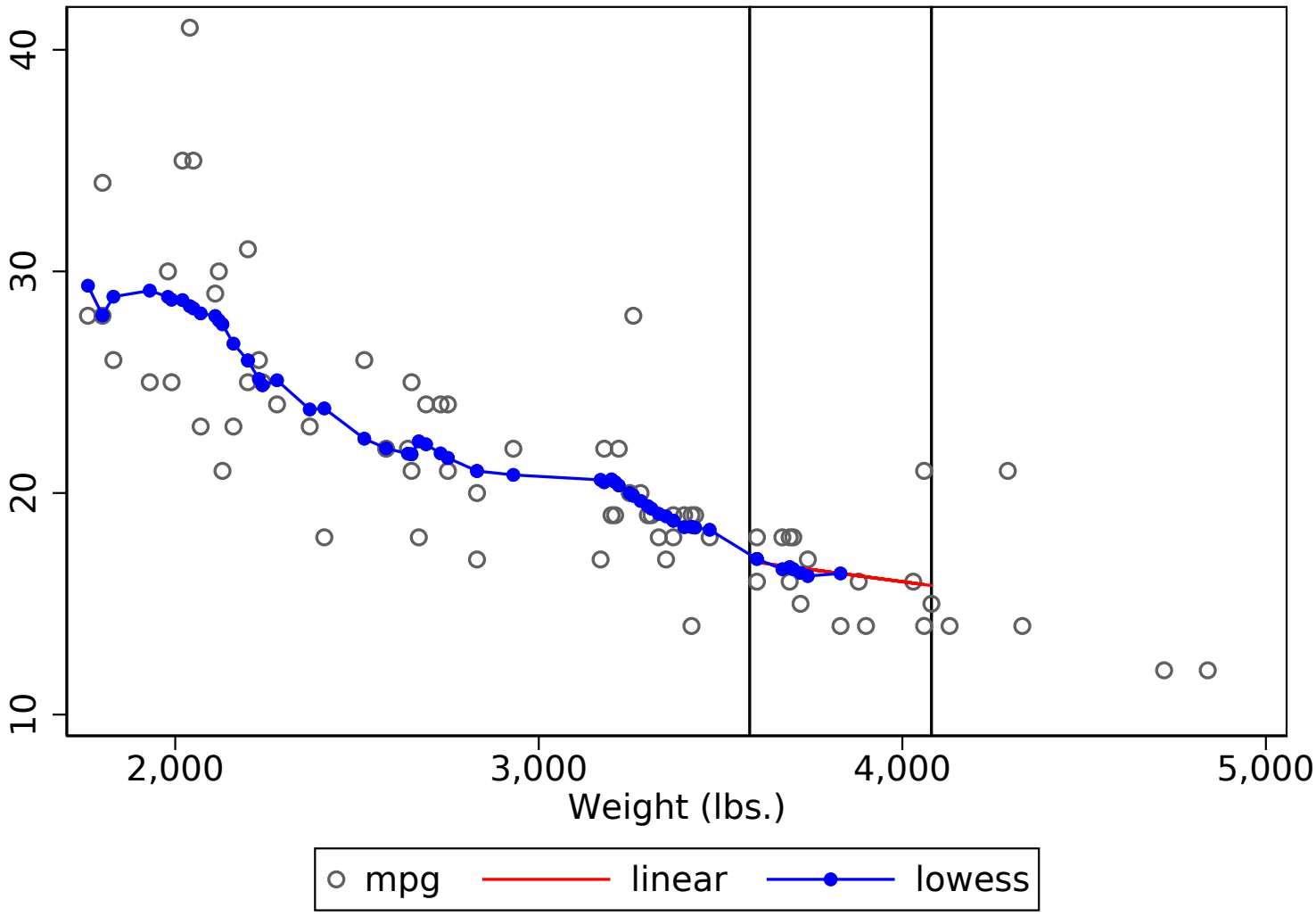

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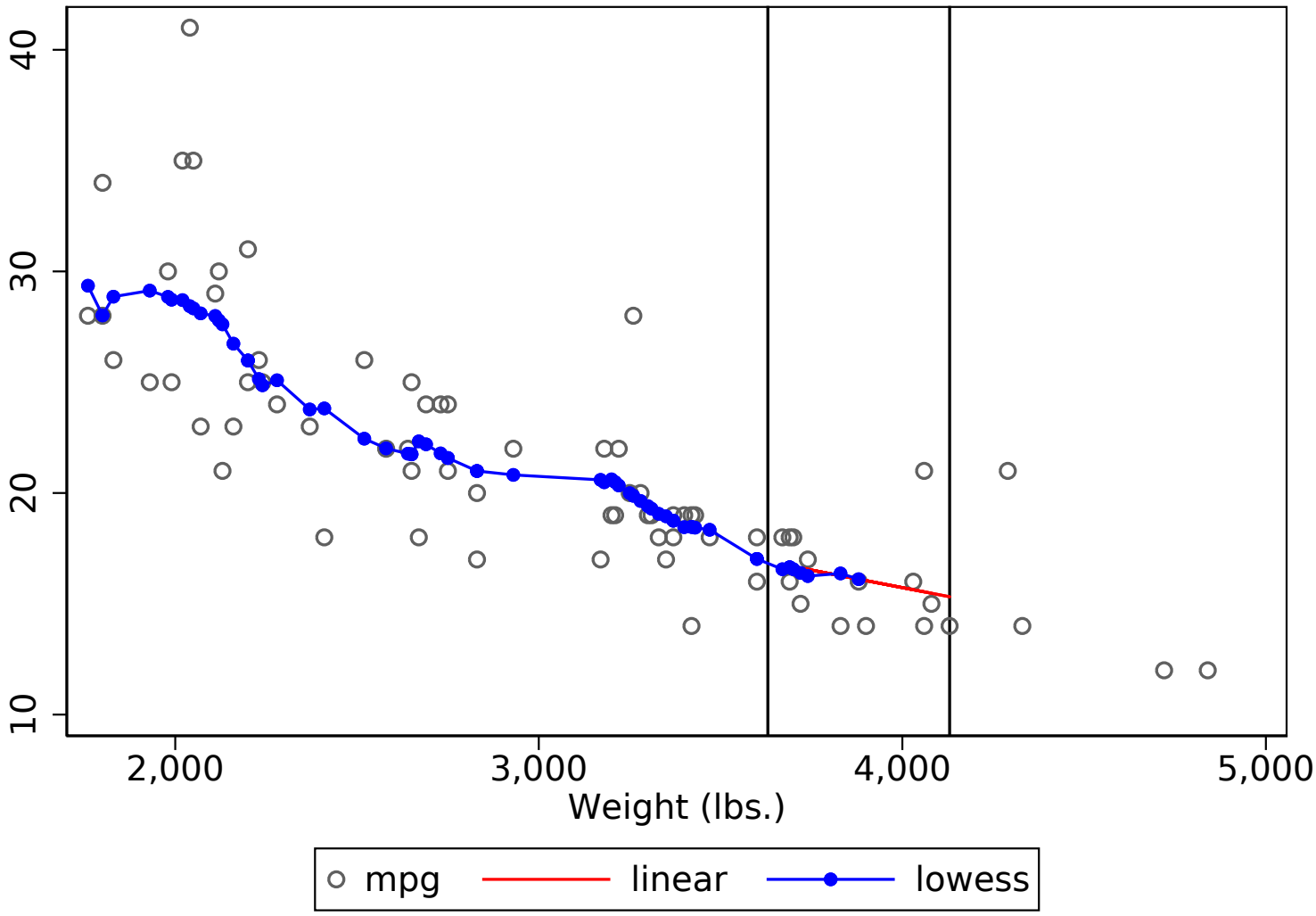

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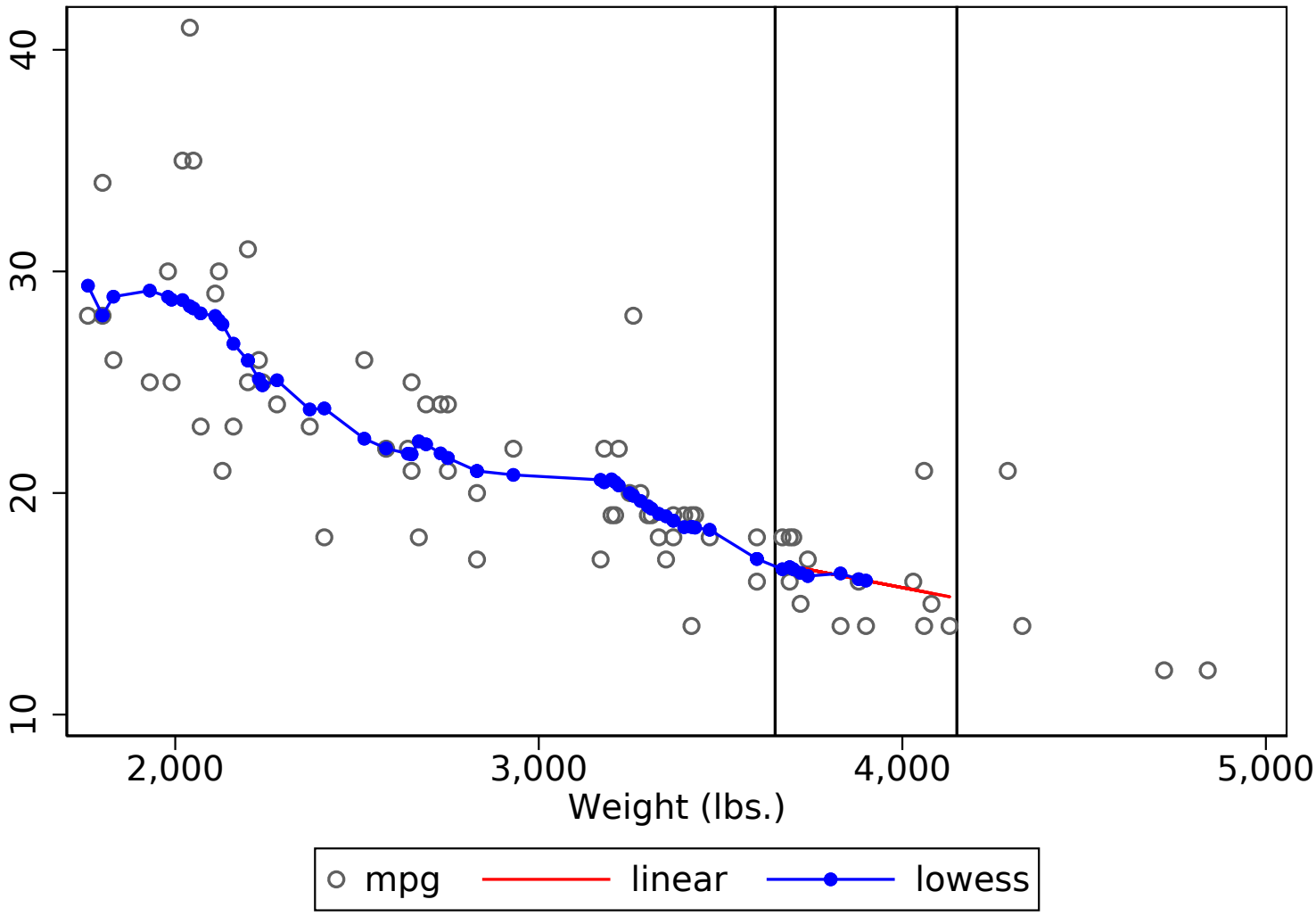

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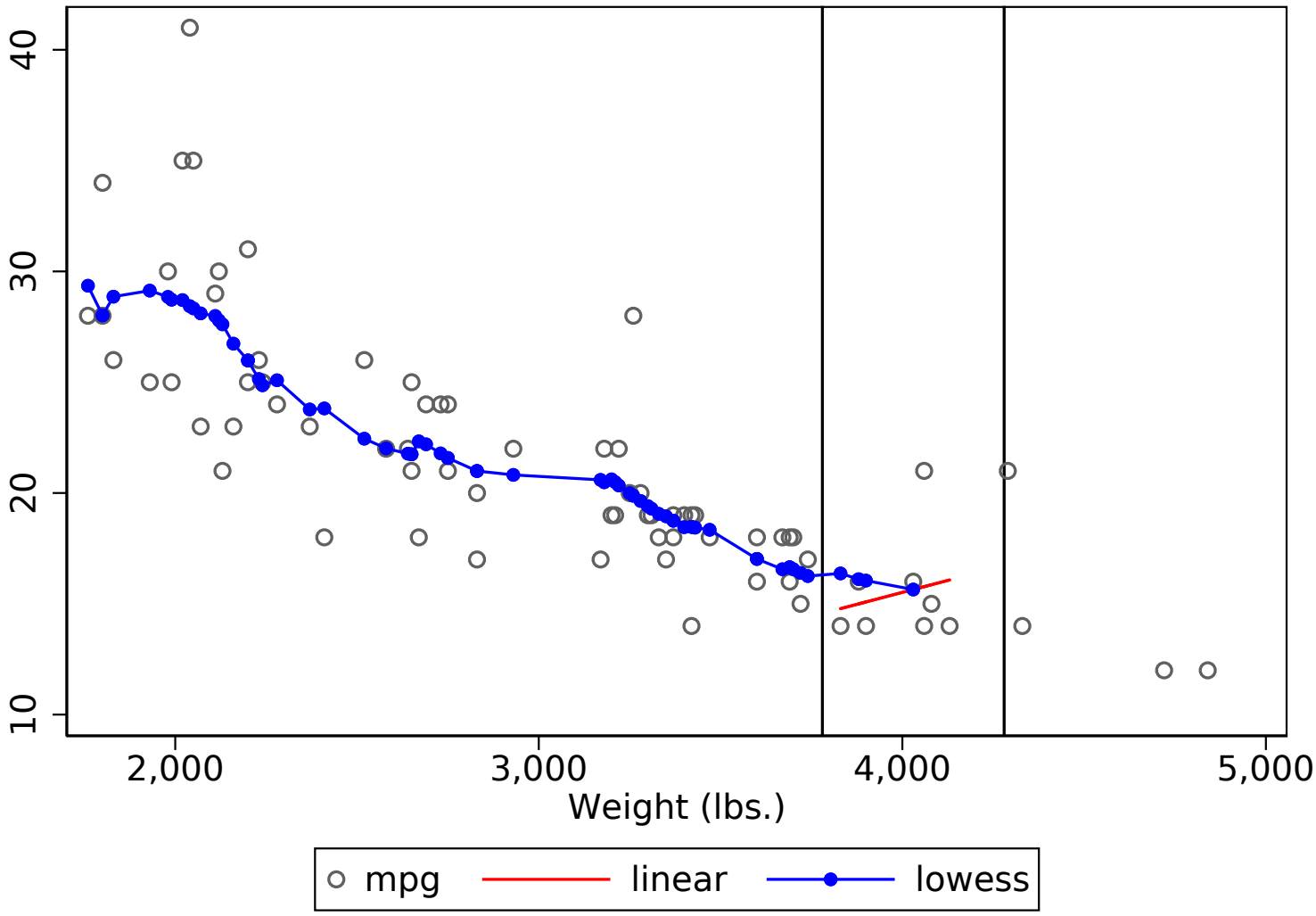

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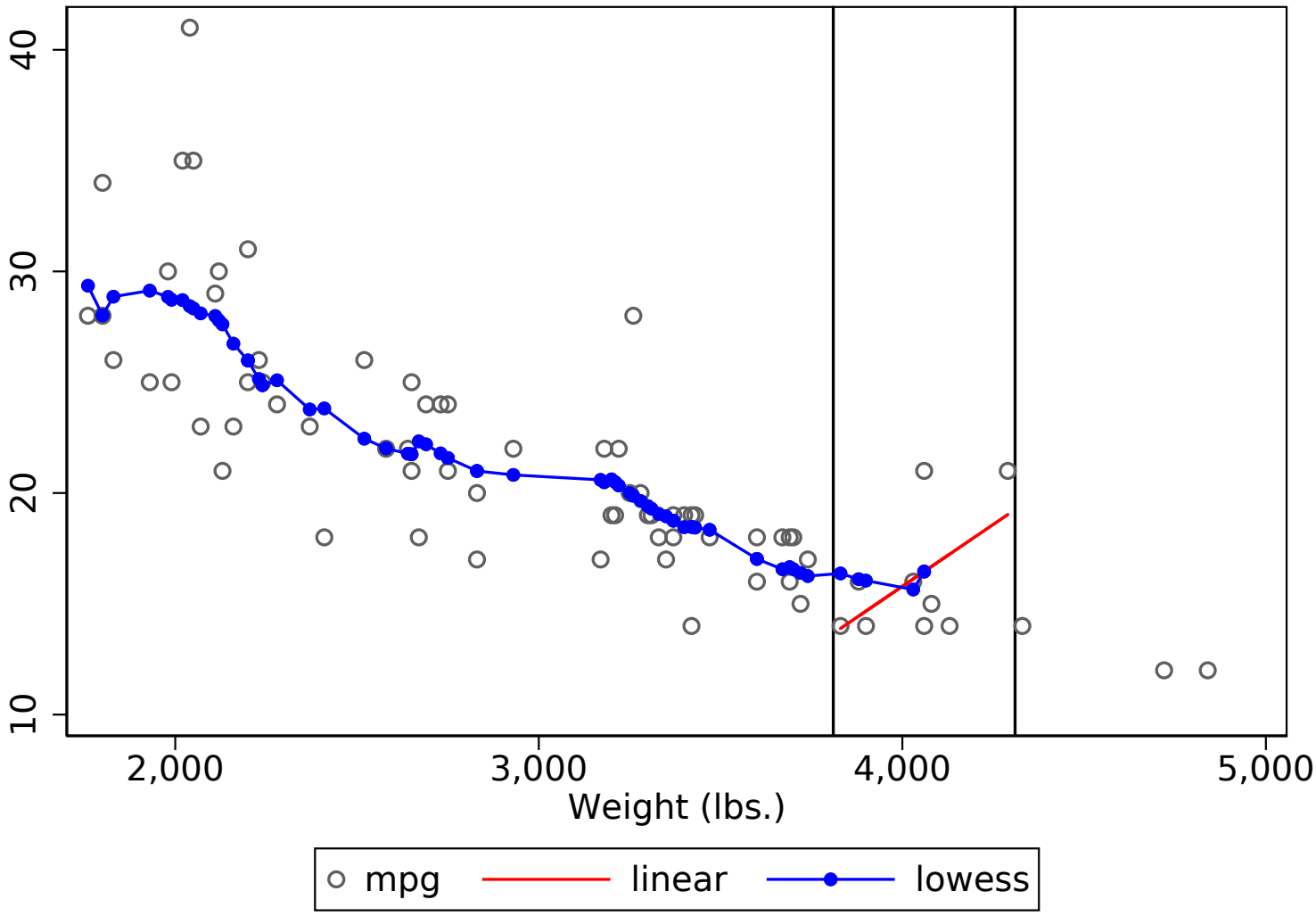

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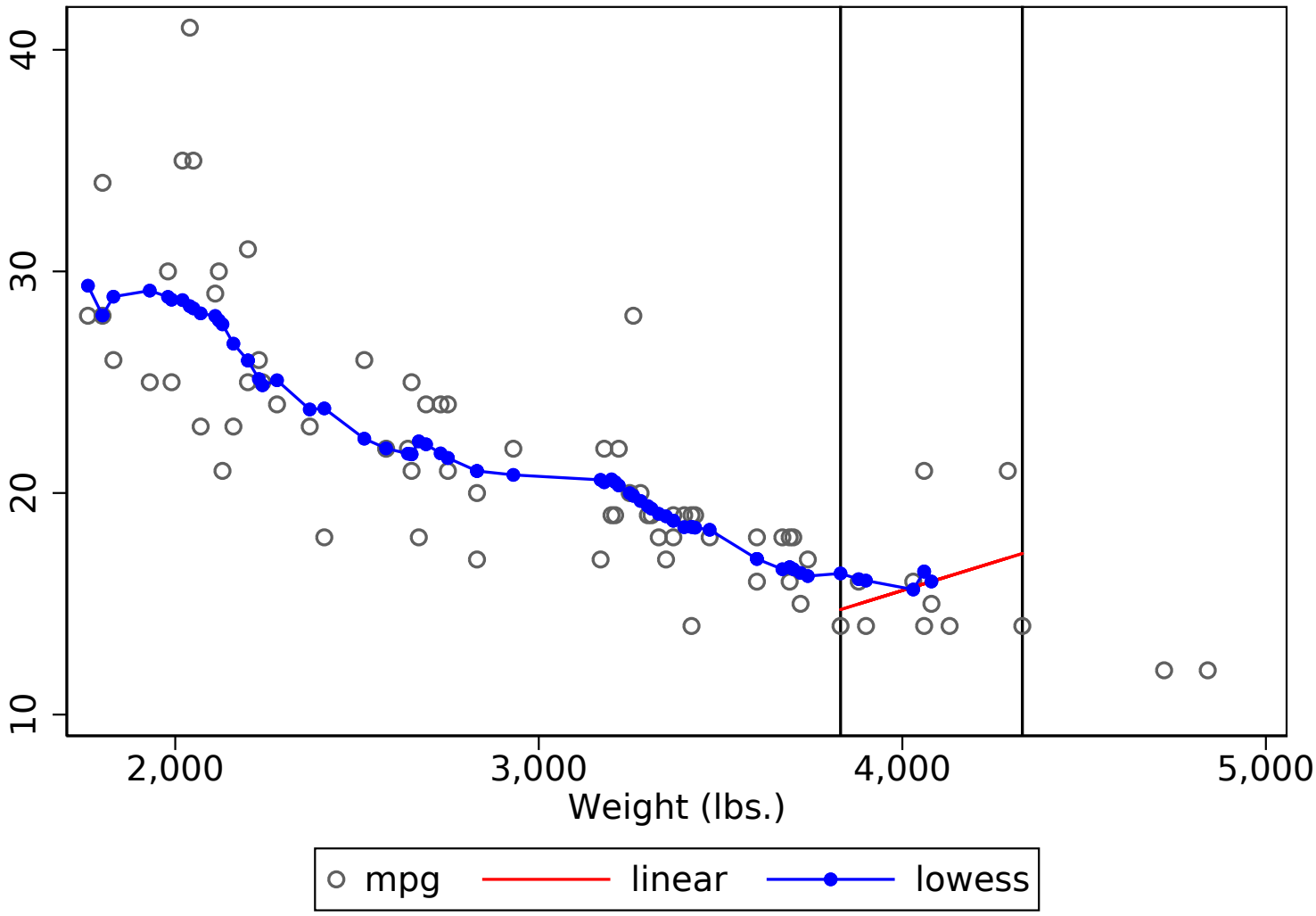

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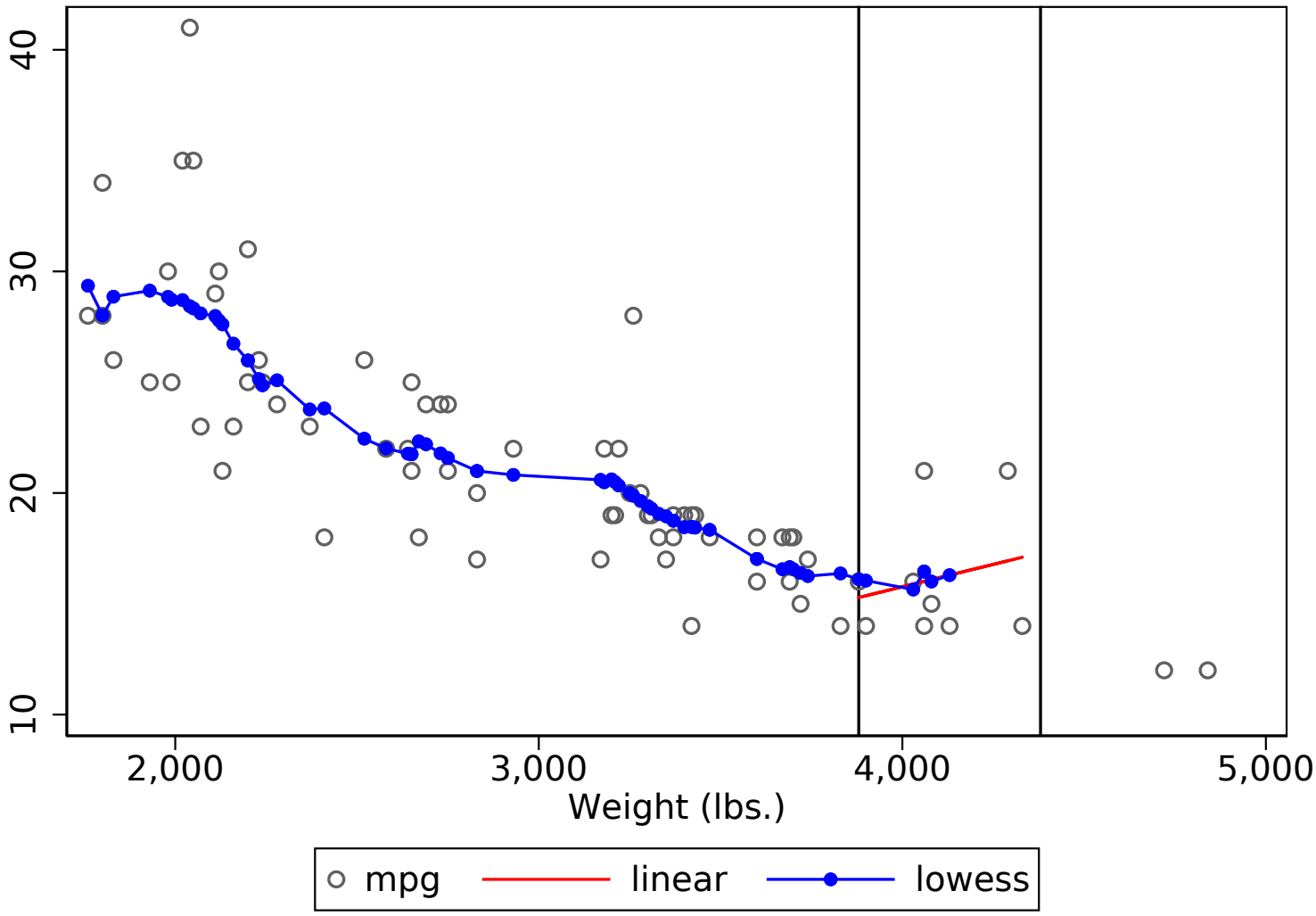

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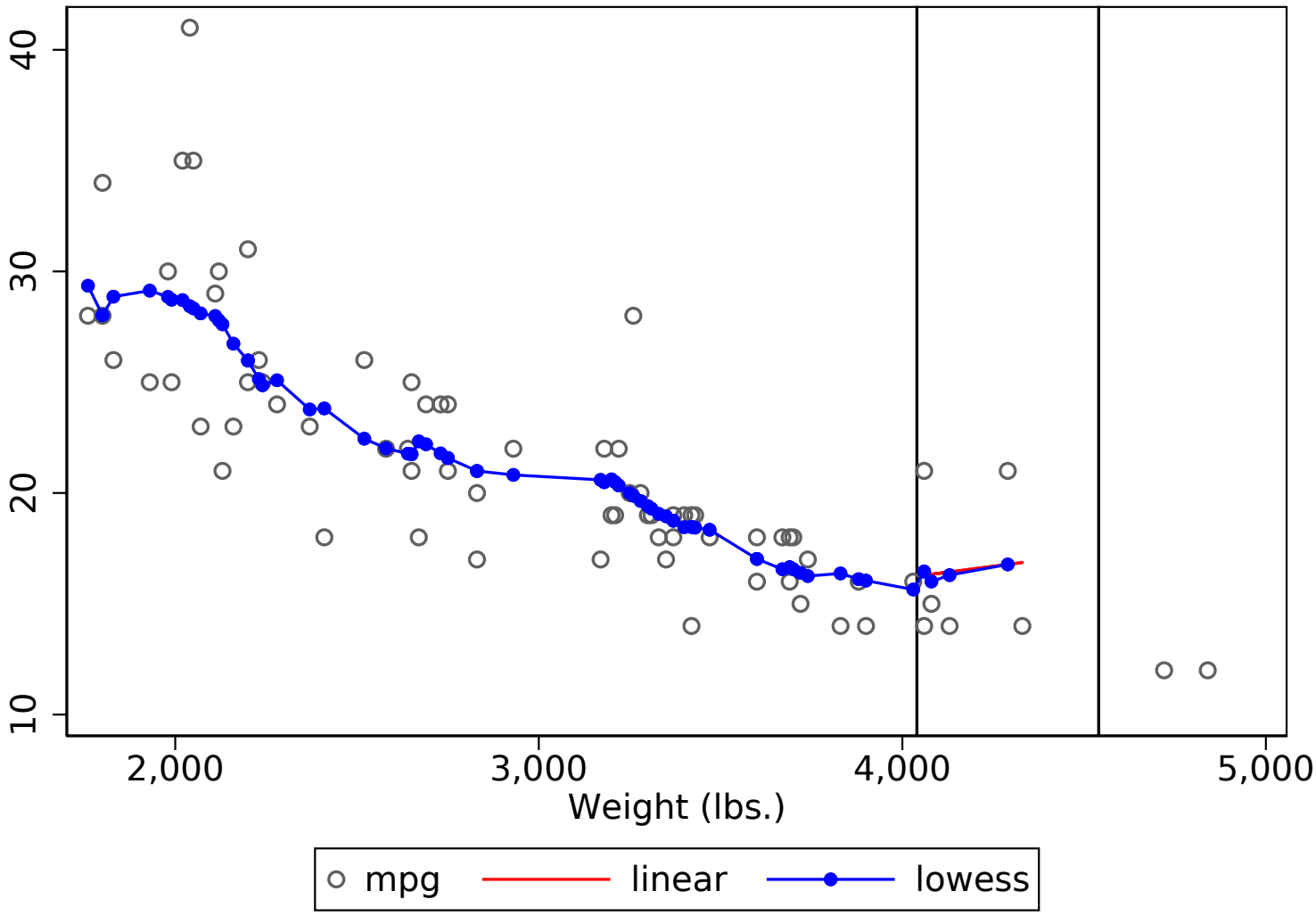

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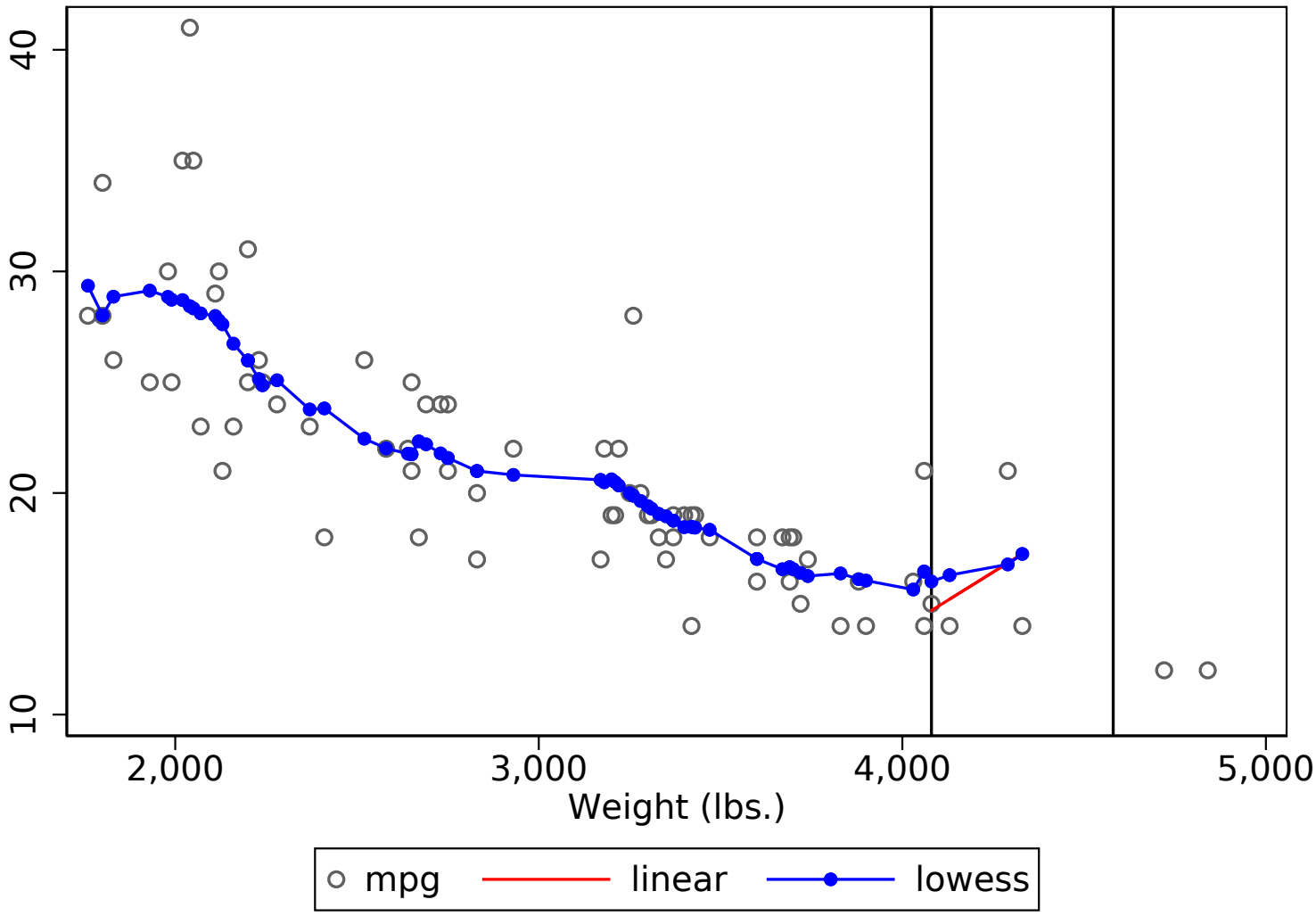

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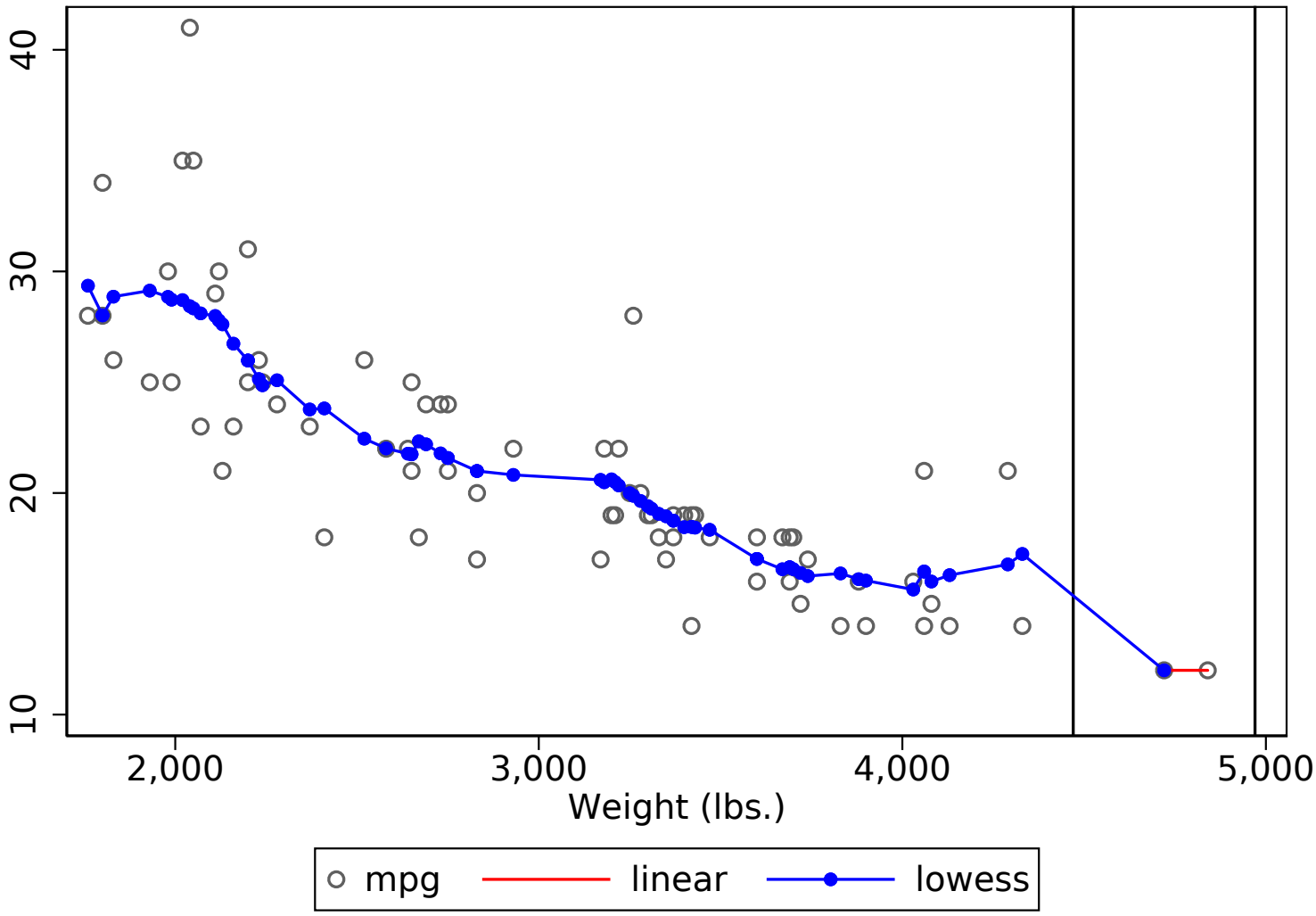

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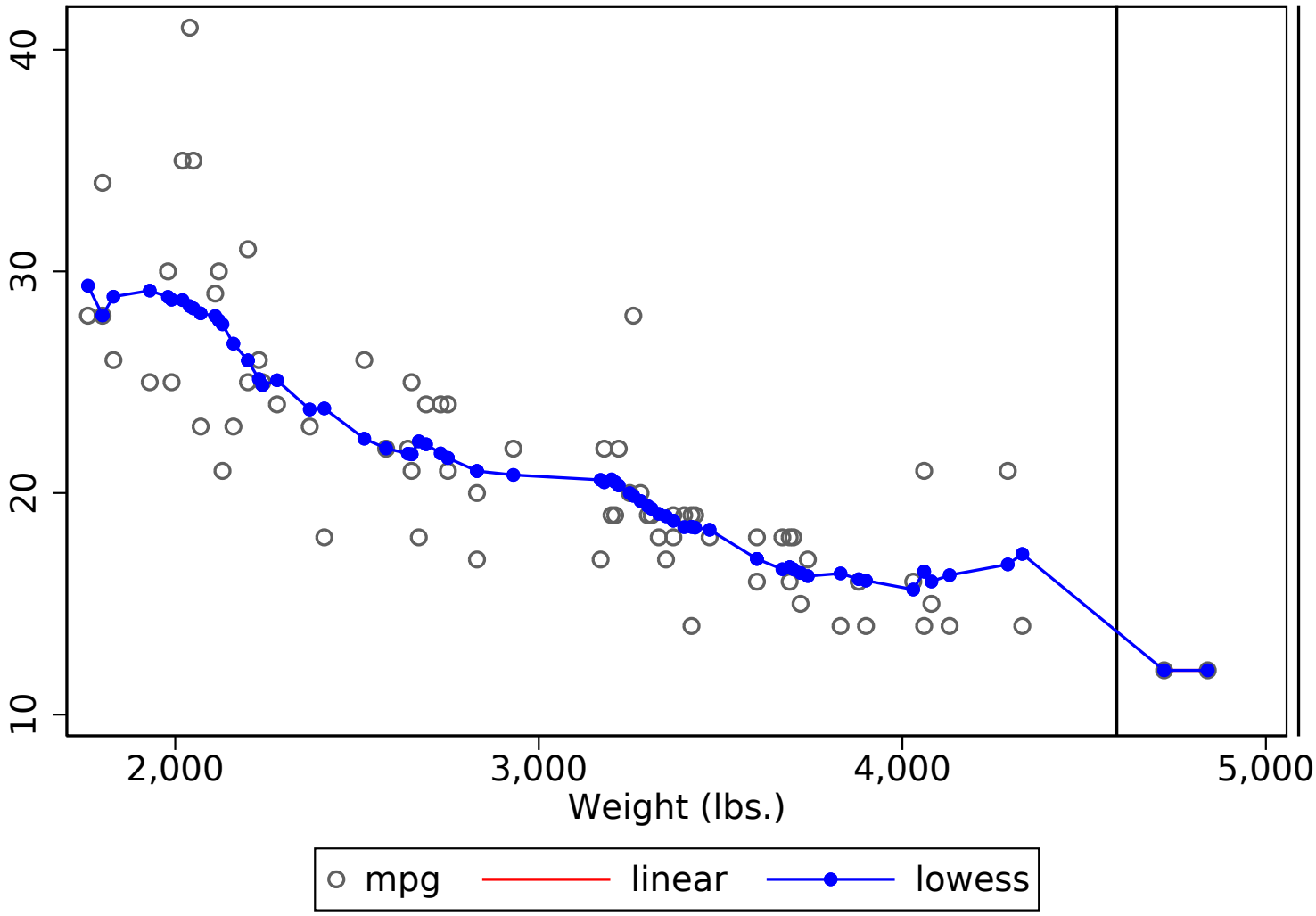
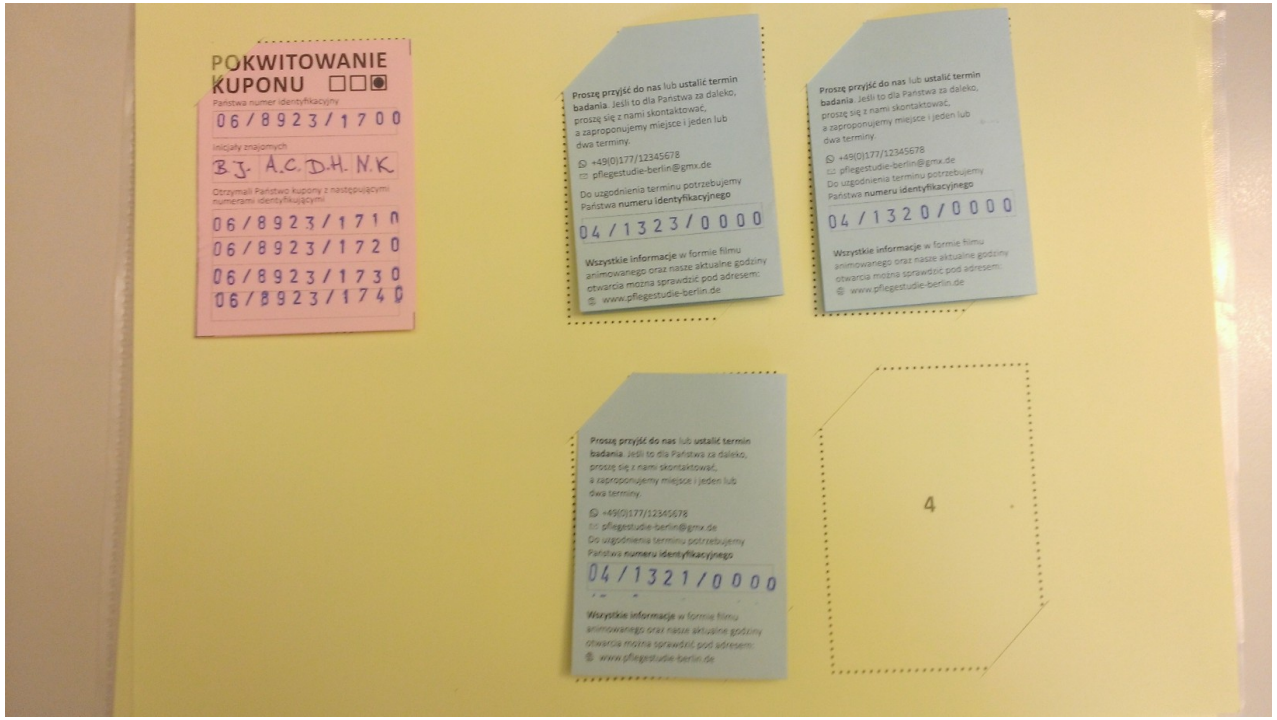


Of course we would like to see this realy interactive.

Web scraping

- Web scraping is yet another reason for some to convert to R (and Python, of course)
- I realized that Python is much more powerful in processing text data. Regular Expressions, in particular, are easier to use there.
- However still:
  - `copy` lets you copy a file from the Internet to your hard disk, which can then be processed with `file`.
  - You can add Java plugins to Stata.
  - Java plugins have been used to programm
  - `twitter2stata`;
    see `https://blog.stata.com/2017/07/25/importing-twitter-data-into-stata/`
  - `facebook2stata`;
    see `https://blog.stata.com/2018/01/16/importing-facebook-data-into-stata/`

’course there is an R-package . . .



- Need to rename this file using number found in the upper left corner.
- An R-package finds that number
- ’course it is easy to the same with Stata

```
. do jpgrename
```

Literature

Cox, N. J. 2005. A brief history of Stata on its 20th anniversary. *Stata Journal* 5(1): 2005.

Henkel, J. and E. von Hippel. 2005. Welfare Implications of User Innovation. In *Essays in Honor of Edwin Mansfield. The Economics of R&D, Innovation and Technological Change*, eds. A. N. Link and F. M. Scherer, 45–59. Springer.

Jokisch, M. 2001. Open-Source Software-Entwicklung. Eine Analyse des Geschäftsmodells der StataCorp. Unpublished Master Thesis University of Munich.