Poaching and Firm-Sponsored Training:
First Clean Evidence

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Motivation

- Poaching: hiring a worker immediately after training against the will of the training firm
- Poaching is a threat for company-sponsored training in general skills
- No empirical evidence

Contribution

- Institutional setting of training in transferable and visible skills that are comparable across firms
- Assessment of counterfactual wages
- Estimating a lower bound of poaching
- Response of firms to poaching

Institutional framework

The German apprenticeship training system

- trains around two third of each birth cohort
- apprentices start usually at 16
- vocational schools and workplace training
- monitored by independent institutions
- strongly regulated by Vocational Training Act and occupational specific training curricula
- externally graded exams

Institutional Framework

The apprenticeship training system is ideal to measure poaching:

- Unambiguous definition of training and skills (Vocational Training Act, central exams, monitored by chambers)
- Transferable and visible skills
- human capital investment
- Ex-ante non-contractibility of employment after training
- Exogenous timing and duration of training
- Homogenous group of training participants

Data

- Linked Employer Employee Longitudinal Data 1999-2003
- Cancel non-profit and agriculture firms
- No apprenticeships that take 2 years
- Standard apprenticeships
- Full-time employment in first job
- 2-digit occupational codes

Identifying Poaching

Two conditions:

- The training firm wants to retain but cannot attract the best apprenticeship graduate (the best apprenticeship graduate leaves)
- The switching apprenticeship graduate receives a higher wage in the poaching firm than in the training firm (wage mark-up)

Consequence: sample only consists of firms that have at least one staying and one leaving apprentice per occupation and year

Identifying Poaching

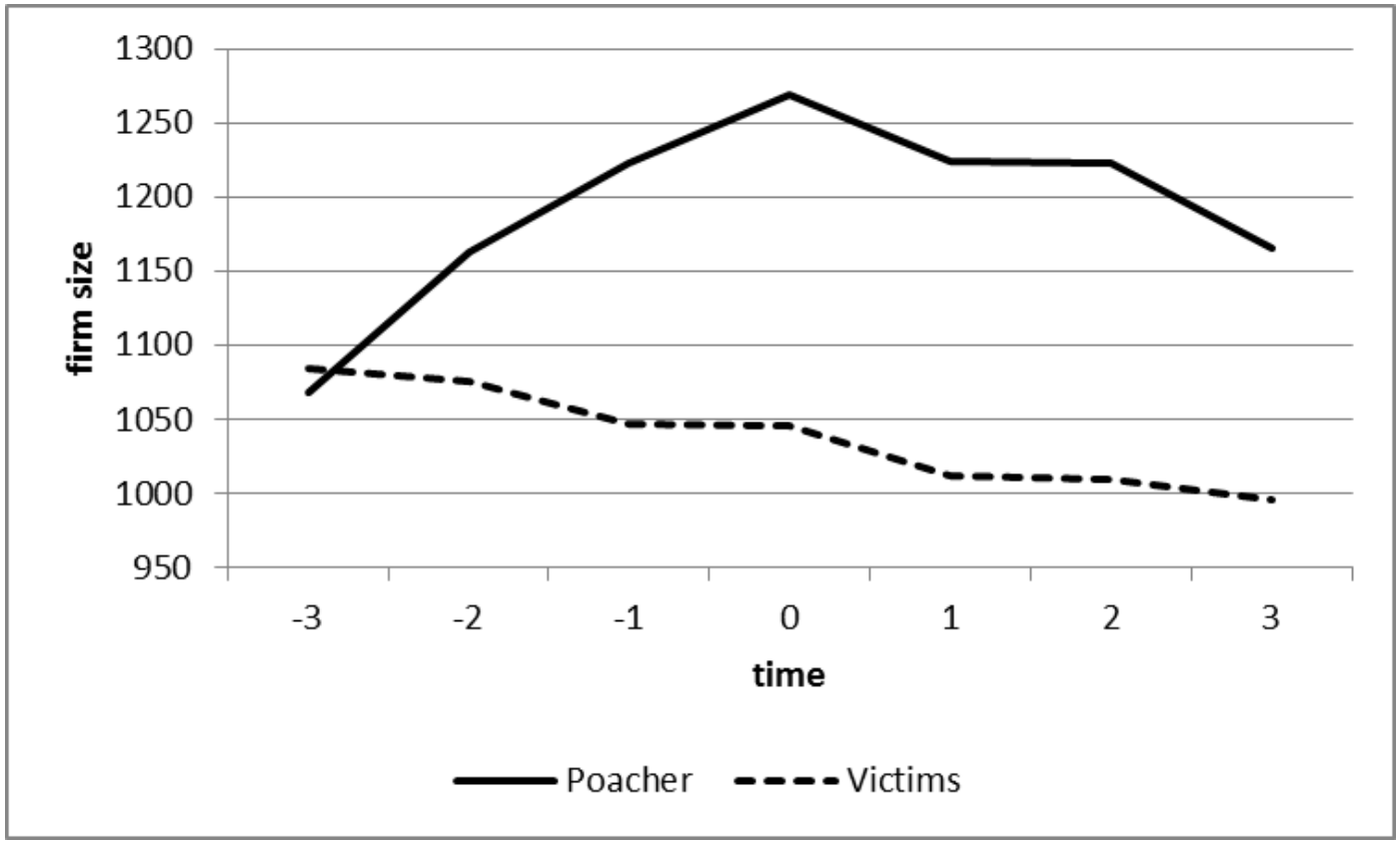
Combine the leaving best apprenticeship graduate and the wage mark-up conditions
Immediate leaving apprenticeship graduates only

Occupation	Proportion
Blue-collar manufacturing	0.084
White-collar	0.122
Total	0.105

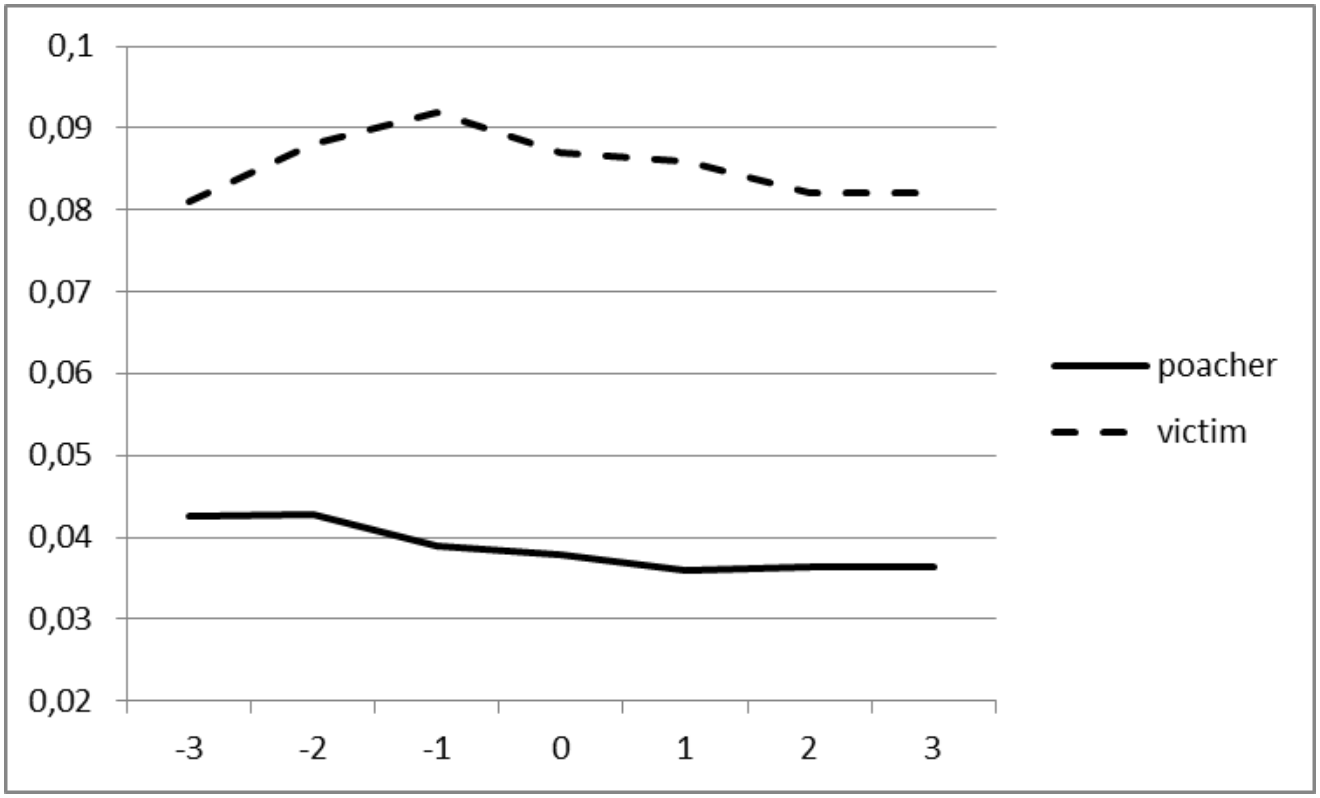
Firms‘ response

- Turning to the establishment-level: around 3 per cent poaching victims of all firms with at least two graduating apprentices in one occupation
- Descriptive comparison between victims and poaching firms
- Firms’ response in
  - new training places
  - wages

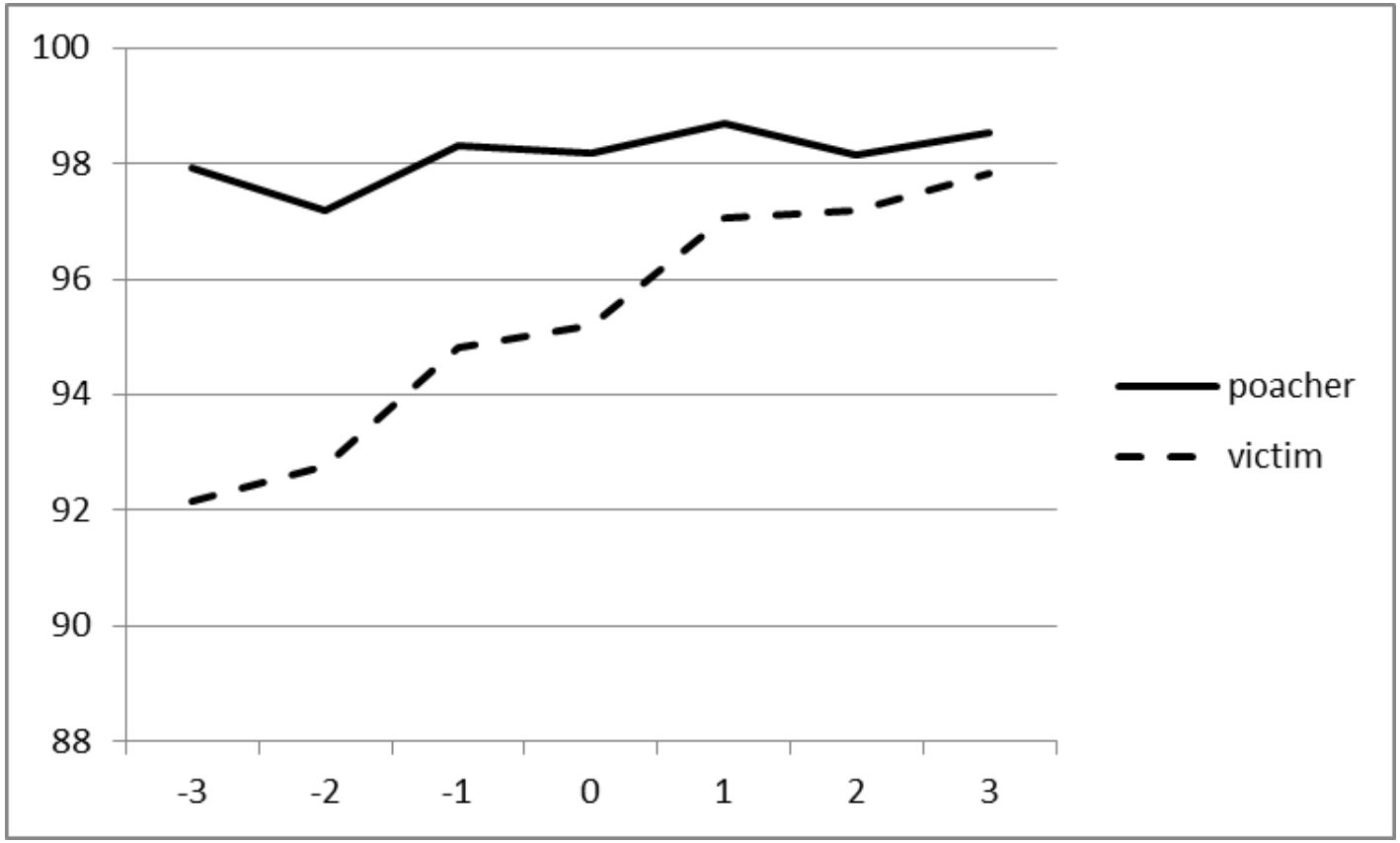
Number of Employees



Share of apprentices on all employees



Median Wages



Robustness Checks

- Relax the poaching definitions
- Vary occupational codes

Conclusions

- Poaching and firm-sponsored training simultaneously exist
- Lower bound – analysis is restricted to large firms that are potential poaching victims
- Poaching victims are more likely in a downsize but seem not to respond to the poaching incidence

Thanks for your attention

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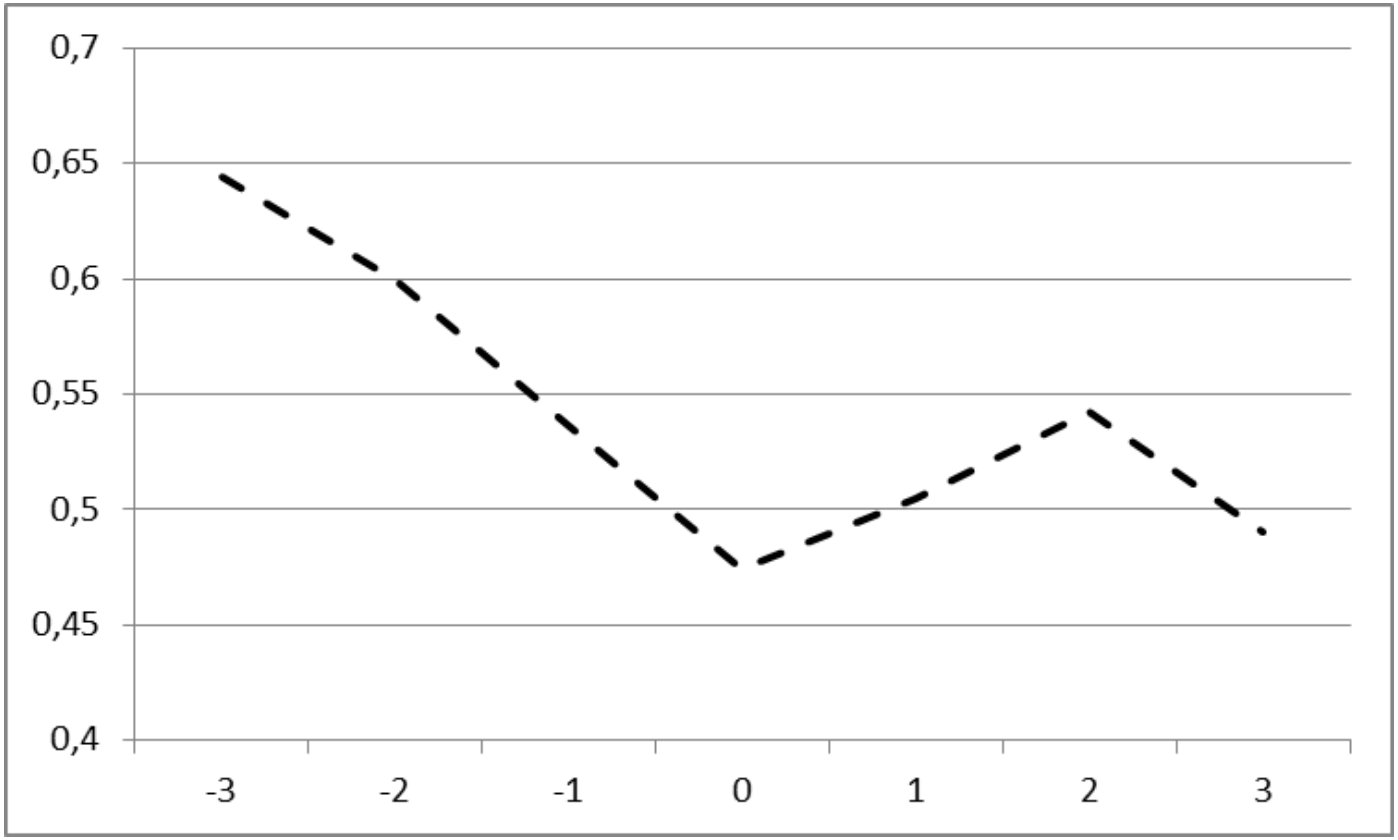
Descriptive differences between Poaching Victims and Poaching Firms

	Coef. (SE)
Median wage for skilled workers	-0.015 (2.49)
Number of employees / 1000	0.065 (2.50)
Employee growth to previous year	-4.366 (4.58)
Churning of skilled workers	-2.766 (2.26)
Number of Observations	313
Pseudo R squared	0.16

Probit Estimation, Standard errors clustered on establishment, z-values in parenthesis, further control variables Proportion of unskilled workers, skilled workers, high-skilled workers and workers which are older than 55 years on all employees, proportion of leaving and newly hired workers with an apprenticeship degree and work experience on all employees, 12 industry and 4 yeas dummies. Source: LIAB longitudinal version 2 1999-2003.

Retention Rate



Responses to Poaching: new training places in (t+1)

	Level			First difference	
Poaching victim	0.020 (3.42)	0.021 (2.17)		0.003 (1.47)	0.003 (1.58)
Poaching Victim in Blue-Collar Manufacturing Occ.		0.013 (1.07)			-0.002 (0.50)
Controls	Yes	Yes		Yes	Yes
Number of Observations	4625	4625		4625	4625
R square	0.06	0.06		0.01	0.01

Tobit Model, Standard errors clustered on establishment, t-values in parenthesis, further control variables: Firm size, Firm Size squaredProportion of unskilled workers, skilled workers, high-skilled workers and workers which are older than 55 years on all employees, proportion of leaving and newly hired workers with an apprenticeship degree and work experience on all employees, 12 industry and 4 yeas dummies. Source: LIAB longitudinal version 2 1999-2003.

Identifying Poaching

Mobility distribution of apprenticeship graduates

Stayer	72.53
Mover within 10 days, same occupation	10.97
Occupational Mover within 10 days	4.88
Mover, more than 10 days, same occupation	4.80
Occupational Mover, more than 10 days	5.54
Mover, no further employment spell	1.28

Identification of apprentice quality by apprenticeship wage

- Collective agreements set one wage for all apprentices in a firm
- But only 4.4 percent of the training firms pay all apprentices the same wage
- SD within one establishment/ occupation/ year cell around 10 percent of the total gross wage at the end of training spell
- Hypothesis: wage mark-ups are indicators of apprenticeship quality

Apprentices‘ wage structure

Test the explanatory power of the last apprenticeship wage for the first employment wage of stayers within a firm/ occupation cell

- Spearman Rank Correlation Test
- Less than 2 percent of changers from the last the best wage quartile and vice versa
- OLS regression of wage ranks

Identifying Poaching

The best apprenticeship graduate leave

Apprenticeship graduates who earn more than all staying apprenticeship graduates within an occupation/ establishment cell at the end of the apprenticeship as a proportion of all immediate movers.

Occupation	Proportion
Blue-collar occupations in manufacturing	0.268
White-collar occupations	0.198
Total	0.246

Second identification of poaching by skilled entry wages

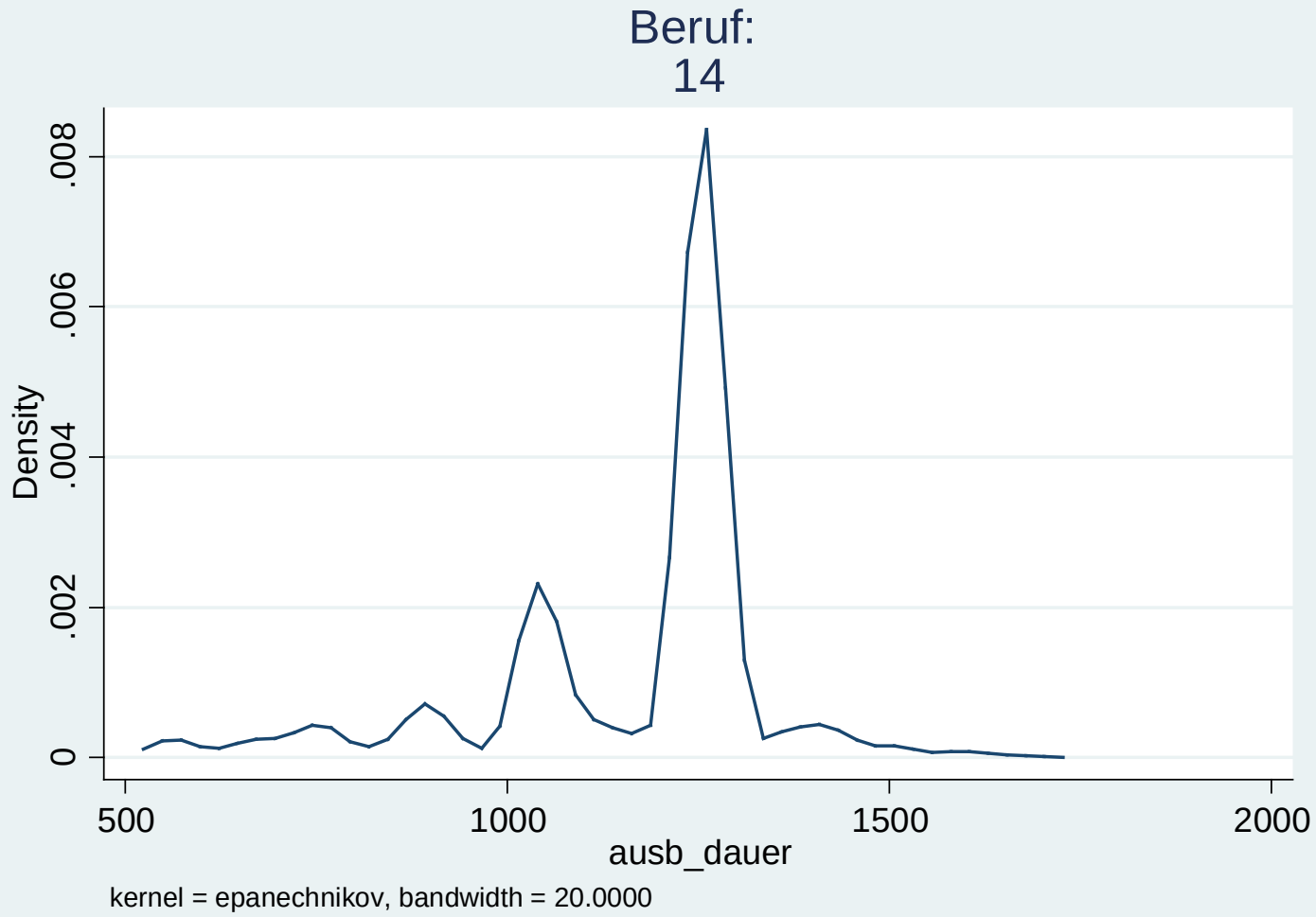
- The highest wage of staying apprenticeship graduates in the same occupation reveals willingness to pay of the training firm
- Switcher has to earn more than the stayers

Identifying Poaching

Wage mark-up

Apprenticeship graduates who earn more than all staying apprenticeship graduates within an occupation/establishment cell at the first full-time employment as a proportion of all immediate movers

Occupation	Proportion
Blue-collar occupations in manufacturing	0.397
White-collar occupations	0.167
Total	0.239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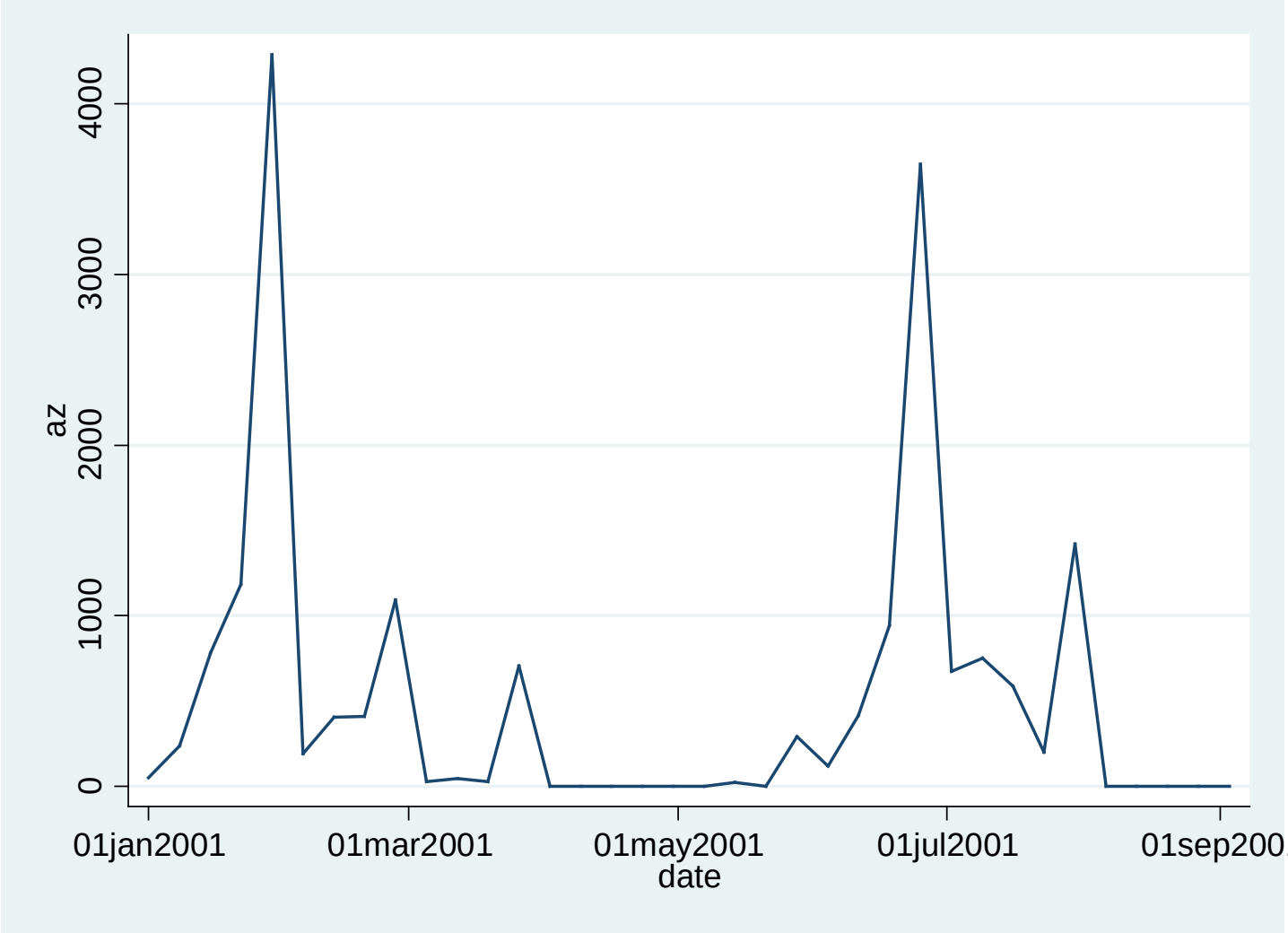
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