Danmarks Statistik
MODELGRUPPEN

Arbejdspapir*

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22. oktober 1991

Beskæftigelsesrelationer til ADAM, oktober 1991

Resumé:

Papiret dokumenterer de foreslåede ligninger til den ny modelversion. Det er med tre undtagelser de samme som i vores sidste papir om beskæftigelsesrelationerne (ADAMs beskæftigelsesrelationer: Forsøg på at beskrive produktivitetsudviklingen vha. tidspolynomier og dummyvariabler, 28. august 1991).

Det drejer sig om Qnfa, Qnff og Qnbf. I de første to ligninger indlægges endnu et produktivitetsknæk i hhv. 1986 og 1985. I Qnbf droppes det sidste knæk i 1987.

Produktivitetstrapperne foreslås lagt ind som eksogene variabler med navnene Dtq_j, *hvor* j *står for de 23 beskæftigelsesrelationer.*

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besk3.tt

Nøgleord: beskæftigelse, produktivitet

1. Indledning

De på forsiden nævnte ændringer skyldes, at den samlede (både arbejdere og funktionærer) slutproduktivitet i disse erhverv er negativ, hvis den beholdes som i vores sidste papir. Årstallet for det sidste knæk i *Qnfa* og *Qnff* er fundet ved søgning efter mindste spredning (med de foreløbige år inddraget).

I erhvervene *nm, nk, nq, b* er slutproduktiviteten for funktionærer også negativ (eller meget lille), men hvis produktiviteten for arbejdere og funktionærer vejes sammen, bliver den samlede produktivitet positiv, hvorfor relationerne beholdes som de blev præsenteret.

2. Oversigt

I appendiks A ses relationerne i deres fulde flor. Nedenfor er den procentvise ændring i produktiviteten i slutningen af perioden (kaldet »slutproduktiviteten«) angivet for de forskellige erhverv.

Tabel 1. Sluproduktiviteten før og nu.

Erhverv		**Produktivitet** før	**Produktivitet** nu	Antal i 1990 (1000)
ne	*a*	7,5	4,2	8
	f	3,9	1,9	9
nf	*a*	3,8	2,3	57
	f	2,4	0,8	20
nn	*a*	5,1	5,6	6
	f	3,4	1,1	3
nb	*a*	6,2	0,5	31
	f	2,9	0,8	12
nm	*a*	5,4	2,0	122
	f	2,7	-0,7	62
nt	*a*	3,4	2,7	24
	f	1,5	1,6	7
nk	*a*	7,4	2,4	37
	f	4,6	-0,1	29
nq	*a*	6,1	1,4	65
	f	3,1	0,1	33
b	*a*	3,2	1,0	120
	f	0,7	-1,6	20
qh		4,0	3,8	226
qs		2,6	4,5	18
qt		2,8	1,6	145
qf		1,5	6,3	105
qq		2,1	2,1	296

Før (ADAM november 1989) var det vejede gennemsnit af produktiviteten lig 3.43 % - den er nu faldet til 2.24 % i de foreslåede ligninger.

Produktivitetsudviklingen lægges i en eksogen variabel for hvert erhverv, kaldet Dtq_j (f.eks. *Dtqnea*). Det skal bemærkes, at disse variabler svarer til et

tidsvarierende konstantled i beskæftigelsesrelationerne, og derfor er variablerne *negative* i perioder med produktivitets*vækst*,

I appendiks C ses modelligningerne.

Appendiks A. Foreslåede beskæftigelsesrelationer til ADAM, oktober 1991.

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QNEA
Restricted Ordinary Least Squares
ANNUAL data for   27 periods from 1961 to 1987
Date: 22 OCT 1991

dlog(qnea)

  =    0.43694 * dlog(fxne) + 0.56306 * dlog(fxne)[-1]
      (4.17132)              (5.37531)

     + 1.00000 * -.65*dlog(hhnn1*(1-bqnea/2)) - 0.10521 * d4870
       (     NC)                                (6.97862)

     - 0.04236 * d7190
       (3.66290)

Sum Sq     0.0545   Std Err    0.0477   LHS Mean   0.0006
R Sq       -9.877   R Bar Sq  -10.784   F  2, 24  -10.897
D.W.( 1)   1.1575   D.W.( 2)   1.7965


QNEF
Restricted Ordinary Least Squares
ANNUAL data for   27 periods from 1961 to 1987
Date: 22 OCT 1991

dlog(qnef)

  =    0.57481 * dlog(fxne) + 0.42519 * dlog(fxne)[-1]
      (5.14961)              (3.80925)

     + 1.00000 * -.65*dlog(hhnn1*(1-bqnef/2)) - 0.05935 * d4870
       (     NC)                                (3.69449)

     - 0.01867 * d7190
       (1.51510)

Sum Sq     0.0619   Std Err    0.0508   LHS Mean   0.0330
R Sq      -1.9040   R Bar Sq  -2.1460   F  2, 24  -7.8677
D.W.( 1)   1.0790   D.W.( 2)   2.0849


QNFA
Restricted Ordinary Least Squares
ANNUAL data for   27 periods from 1961 to 1987
Date: 22 OCT 1991

dlog(qnfa)

  =    0.87471 * dlog(fxnf) + 0.12529 * dlog(fxnf)[-1]
      (8.01654)              (1.14827)

     + 1.00000 * -.65*dlog(hhnn1*(1-bqnfa/2)) + 0.01340 * d4863
       (     NC)                                (0.97809)

     - 0.04866 * d6480 + 0.02383 * d8185 - 0.02340 * d8690
       (8.53509)         (2.27137)         (1.37580)

Sum Sq     0.0121   Std Err    0.0235   LHS Mean  -0.0020
R Sq       0.4517   R Bar Sq   0.3521   F  4, 22   4.5319
D.W.( 1)   1.8428   D.W.( 2)   2.5653
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QNFF
Restricted Ordinary Least Squares
ANNUAL data for   27 periods from 1961 to 1987
Date: 22 OCT 1991

dlog(qnff)

  =    0.63189 * dlog(fxnf) + 0.36811 * dlog(fxnf)[-1]
      (6.50622)              (3.79018)

     + 1.00000 * -.65*dlog(hhnn1*(1-bqnff/2)) + 0.01228 * d4866
       (     NC)                                (1.38958)

     - 0.04085 * d6781 + 0.03672 * d8284 - 0.00757 * d8590
       (7.32011)         (2.94151)         (0.60563)

Sum Sq     0.0103   Std Err    0.0216   LHS Mean   0.0093
R Sq      -0.0402   R Bar Sq  -0.2293   F  4, 22  -0.2125
D.W.( 1)   1.7399   D.W.( 2)   1.8422


QNNA
Restricted Ordinary Least Squares
ANNUAL data for   27 periods from 1961 to 1987
Date: 22 OCT 1991

dlog(qnna)

  =    0.38542 * dlog(fxnn) + 0.61458 * dlog(fxnn)[-1]
      (2.43835)              (3.88809)

     + 1.00000 * -.65*dlog(hhnn1*(1-bqnna/2)) - 0.05617 * d4890
       (     NC)                                (6.73886)

Sum Sq     0.0469   Std Err    0.0433   LHS Mean  -0.0289
R Sq      -0.3455   R Bar Sq  -0.3993   F  1, 25  -6.4190
D.W.( 1)   1.4531   D.W.( 2)   2.2912


QNNF
Restricted Ordinary Least Squares
ANNUAL data for   27 periods from 1961 to 1987
Date: 22 OCT 1991

dlog(qnnf)

  =    0.46611 * dlog(fxnn) + 0.53389 * dlog(fxnn)[-1]
      (4.02639)              (4.61184)

     + 1.00000 * -.65*dlog(hhnn1*(1-bqnnf/2)) - 0.04566 * d4875
       (     NC)                                (5.57939)

     - 0.01051 * d7690
       (1.14744)

Sum Sq     0.0241   Std Err    0.0317   LHS Mean  -0.0033
R Sq      -0.9562   R Bar Sq  -1.1192   F  2, 24  -5.8657
D.W.( 1)   1.6171   D.W.( 2)   1.6331


QNBA
Restricted Ordinary Least Squares
ANNUAL data for   27 periods from 1961 to 1987
Date: 22 OCT 1991

dlog(qnba)

  =    0.67444 * dlog(fxnb) + 0.32556 * dlog(fxnb)[-1]
      (13.8112)              (6.66668)

     + 1.00000 * -.65*dlog(hhnn1*(1-bqnba/2)) - 0.07835 * d4870
       (     NC)                                (10.6458)

     - 0.04232 * d7180 - 0.00521 * d8190
       (5.71340)         (0.59016)

Sum Sq     0.0124   Std Err    0.0233   LHS Mean  -0.0100
R Sq       0.7903   R Bar Sq   0.7630   F  3, 23  28.8981
D.W.( 1)   2.2784   D.W.( 2)   1.9721
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QNBF
Restricted Ordinary Least Squares
ANNUAL data for   27 periods from 1961 to 1987
Date: 22 OCT 1991

dlog(qnbf)

  =    0.43094 * dlog(fxnb)
      (7.34165)

     + 0.56906 * log(0.3*(fxnb.1/fxnb.2)+0.7*(fxnb.2/fxnb.3))
      ( 9.6947)

     + 1.00000 * -.65*dlog(hhnn1*(1-bqnbf/2)) - 0.03883 * d4872
      (     NC)                                 (4.92876)

     - 0.00781 * d7390
      (1.11054)

Sum Sq      0.0178   Std Err    0.0272   LHS Mean   0.0167
R Sq        0.6845   R Bar Sq   0.6582   F  2, 24  26.0356
D.W.( 1)    1.5906   D.W.( 2)   1.7006


QNMA
Restricted Ordinary Least Squares
ANNUAL data for   27 periods from 1961 to 1987
Date: 22 OCT 1991

dlog(qnma)

  =    0.82727 * dlog(fxnm) + 0.17273 * dlog(fxnm)[-1]
      (16.9428)              (3.53761)

     + 1.00000 * -.65*dlog(hhnn1*(1-bqnma/2)) - 0.05949 * d4875
      (     NC)                                 (11.4912)

     - 0.01975 * d7690
      (3.44268)

Sum Sq      0.0095   Std Err    0.0199   LHS Mean   0.0056
R Sq        0.8783   R Bar Sq   0.8682   F  2, 24  86.6424
D.W.( 1)    2.1938   D.W.( 2)   1.2587


QNMF
Restricted Ordinary Least Squares
ANNUAL data for   27 periods from 1961 to 1987
Date: 22 OCT 1991

dlog(qnmf)

  =    0.59918 * dlog(fxnm) + 0.40082 * dlog(fxnm)[-1]
      (11.1160)              (7.43603)

     + 1.00000 * -.65*dlog(hhnn1*(1-bqnmf/2)) - 0.02629 * d4880
      (     NC)                                 (5.31677)

     + 0.00734 * d8190
      (0.87775)

Sum Sq      0.0117   Std Err    0.0221   LHS Mean   0.0316
R Sq        0.5600   R Bar Sq   0.5233   F  2, 24  15.2731
D.W.( 1)    2.3724   D.W.( 2)   2.4874
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QNTA
Restricted Ordinary Least Squares
ANNUAL data for   27 periods from 1961 to 1987
Date: 22 OCT 1991

dlog(qnta)

  =    0.55918 * dlog(fxnt) + 0.44082 * dlog(fxnt)[-1]
      (7.32256)              (5.77273)

     + 1.00000 * -.65*dlog(hhnn1*(1-bqnta/2)) - 0.04627 * d4876
       (     NC)                                (3.69816)

     + 0.03037 * d7780 - 0.02698 * d8190
       (1.21167)         (1.41636)

Sum Sq     0.0574   Std Err    0.0500   LHS Mean  -0.0144
R Sq       0.1494   R Bar Sq   0.0384   F  3, 23   1.3465
D.W.( 1)   2.1855   D.W.( 2)   1.3554


QNTF
Restricted Ordinary Least Squares
ANNUAL data for   27 periods from 1961 to 1987
Date: 22 OCT 1991

dlog(qntf)

  =    0.55644 * dlog(fxnt) + 0.44356 * dlog(fxnt)[-1]
      (6.52359)              (5.20011)

     + 1.00000 * -.65*dlog(hhnn1*(1-bqntf/2)) - 0.02377 * d4876
       (     NC)                                (1.69138)

     + 0.13869 * d7777 - 0.01570 * d7890
       (2.45580)         (0.88442)

Sum Sq     0.0724   Std Err    0.0561   LHS Mean   0.0014
R Sq      -0.5006   R Bar Sq  -0.6963   F  3, 23  -2.5576
D.W.( 1)   1.8816   D.W.( 2)   1.8560


QNKA
Restricted Ordinary Least Squares
ANNUAL data for   27 periods from 1961 to 1987
Date: 22 OCT 1991

dlog(qnka)

  =    0.78453 * dlog(fxnk) + 0.21547 * dlog(fxnk)[-1]
      (10.2282)              (2.80913)

     + 1.00000 * -.65*dlog(hhnn1*(1-bqnka/2)) - 0.08660 * d4873
       (     NC)                                (12.6705)

     - 0.06034 * d7477 - 0.02405 * d7890
       (4.89438)         (3.08615)

Sum Sq     0.0140   Std Err    0.0246   LHS Mean   0.0032
R Sq       0.6669   R Bar Sq   0.6235   F  3, 23  15.3527
D.W.( 1)   2.7729   D.W.( 2)   1.3679
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QNKF
Restricted Ordinary Least Squares
ANNUAL data for   27 periods from 1961 to 1987
Date: 22 OCT 1991

dlog(qnkf)

  =    0.55441 * dlog(fxnk) + 0.44559 * dlog(fxnk)[-1]
      (5.97975)              (4.80610)

     + 1.00000 * -.65*dlog(hhnn1*(1-bqnkf/2)) - 0.05884 * d4873
       (     NC)                                (7.12111)

     - 0.02159 * d7481 + 0.00133 * d8290
       (2.04856)         (0.10976)

Sum Sq      0.0204   Std Err     0.0298   LHS Mean    0.0295
R Sq       -0.2182   R Bar Sq   -0.3771   F  3, 23  -1.3733
D.W.( 1)    1.9740   D.W.( 2)    3.0520


QNQA
Restricted Ordinary Least Squares
ANNUAL data for   27 periods from 1961 to 1987
Date: 22 OCT 1991

dlog(qnqa)

  =    0.79612 * dlog(fxnq) + 0.20388 * dlog(fxnq)[-1]
      (15.6724)              (4.01351)

     + 1.00000 * -.65*dlog(hhnn1*(1-bqnqa/2)) - 0.06461 * d4875
       (     NC)                                (16.3214)

     - 0.04484 * d7681 - 0.01373 * d8290
       (7.19392)         (2.20243)

Sum Sq      0.0054   Std Err     0.0153   LHS Mean   -0.0167
R Sq        0.8691   R Bar Sq    0.8520   F  3, 23   50.8836
D.W.( 1)    2.0128   D.W.( 2)    1.4048


QNQF
Restricted Ordinary Least Squares
ANNUAL data for   27 periods from 1961 to 1987
Date: 22 OCT 1991

dlog(qnqf)

  =    0.64320 * dlog(fxnq) + 0.35680 * dlog(fxnq)[-1]
      (10.4257)              (5.78336)

     + 1.00000 * -.65*dlog(hhnn1*(1-bqnqf/2)) - 0.03336 * d4880
       (     NC)                                (8.01021)

     - 0.00085 * d8190
       (0.12091)

Sum Sq      0.0083   Std Err     0.0186   LHS Mean    0.0083
R Sq        0.6838   R Bar Sq    0.6575   F  2, 24   25.9514
D.W.( 1)    1.6637   D.W.( 2)    2.5361
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QBA
Restricted Ordinary Least Squares
ANNUAL data for   39 periods from 1949 to 1987
Date: 22 OCT 1991

dlog(qba)

  =    0.85269 * dlog(fxb) + 0.14731 * dlog(fxb)[-1]
      (12.7594)             (2.20430)

     + 1.00000 * -.65*dlog(ha*(1-bqba/2)) - 0.03912 * d4872
       (     NC)                           (5.99796)

     - 0.00963 * d7390
       (1.16659)

Sum Sq     0.0367   Std Err    0.0319   LHS Mean   0.0118
R Sq       0.7469   R Bar Sq   0.7328   F  2, 36  53.1198
D.W.( 1)   2.1623   D.W.( 2)   2.1020


QBF
Restricted Ordinary Least Squares
ANNUAL data for   39 periods from 1949 to 1987
Date: 22 OCT 1991

dlog(qbf)

  =    0.60116 * dlog(fxb) + 0.39884 * dlog(fxb)[-1]
      (3.82935)             (2.54056)

     + 1.00000 * -.65*dlog(ha*(1-bqbf/2)) - 0.03441 * d4863
       (     NC)                           (1.77468)

     + 0.01576 * d6490
       (1.02809)

Sum Sq     0.2030   Std Err    0.0751   LHS Mean   0.0375
R Sq       0.3052   R Bar Sq   0.2666   F  2, 36   7.9069
D.W.( 1)   1.6589   D.W.( 2)   1.7186


QQH
Restricted Ordinary Least Squares
ANNUAL data for   39 periods from 1949 to 1987
Date: 22 OCT 1991

dlog(qqh)

  =    0.65910 * dlog(fxqh) + 0.34090 * dlog(fxqh)[-1]
      (6.53787)             (3.38149)

     + 1.00000 * -.65*dlog(ha*(1-bqqh/2)) - 0.03803 * d4890
       (     NC)                           (7.04979)

Sum Sq     0.0420   Std Err    0.0337   LHS Mean   0.0079
R Sq       0.3130   R Bar Sq   0.2944   F  1, 37  16.8571
D.W.( 1)   1.4962   D.W.( 2)   2.1208


QQS
Restricted Ordinary Least Squares
ANNUAL data for   39 periods from 1949 to 1987
Date: 22 OCT 1991

dlog(qqs)

  =    0.44004 * dlog(fxqs) + 0.55996 * dlog(fxqs)[-1]
      (5.12004)             (6.51532)

     + 1.00000 * -.65*dlog(ha*(1-bqqs/2)) - 0.05876 * d4857
       (     NC)                           (2.58072)

     + 0.09466 * d5863 - 0.04485 * d6490
       (3.38819)         (3.21893)

Sum Sq     0.1631   Std Err    0.0683   LHS Mean  -0.0019
R Sq      -1.5423   R Bar Sq  -1.7602   F  3, 35  -7.0776
D.W.( 1)   1.5995   D.W.( 2)   2.8839
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QQT
Restricted Ordinary Least Squares
ANNUAL data for   39 periods from 1949 to 1987
Date: 22 OCT 1991

dlog(qqt)

  =    0.49038 * dlog(fxqt) + 0.50962 * dlog(fxqt)[-1]
      (3.51363)              (3.65156)

     + 1.00000 * -.65*dlog(ha*(1-bqqt/2)) + 0.00381 * d4856
      (     NC)                            (0.35618)

     - 0.06385 * d5767 - 0.01595 * d6890
      (7.00845)         (2.35808)

Sum Sq     0.0320   Std Err    0.0302   LHS Mean   0.0123
R Sq       0.2526   R Bar Sq   0.1885   F  3, 35   3.9428
D.W.( 1)   2.1658   D.W.( 2)   2.3045


QQF
Restricted Ordinary Least Squares
ANNUAL data for   39 periods from 1949 to 1987
Date: 22 OCT 1991

dlog(qqf)

  =    0.42659 * dlog(fxqf) + 0.57341 * dlog(fxqf)[-1]
      (6.76613)              (9.09490)

     + 1.00000 * -.65*dlog(ha*(1-bqqf/2)) - 0.02347 * d4874
      (     NC)                            (3.45461)

     + 0.04851 * d7582 - 0.06327 * d8390
      (3.96158)         (4.08476)

Sum Sq     0.0420   Std Err    0.0346   LHS Mean   0.0393
R Sq      -2.2102   R Bar Sq  -2.4854   F  3, 35  -8.0325
D.W.( 1)   1.2348   D.W.( 2)   2.1170


QQQ
Restricted Ordinary Least Squares
ANNUAL data for   39 periods from 1949 to 1987
Date: 22 OCT 1991

dlog(qqq)

  =    0.40994 * dlog(fxqq) + 0.59006 * dlog(fxqq)[-1]
      (2.42528)              (3.49095)

     + 1.00000 * -.65*dlog(ha*(1-bqqq/2)) - 0.02113 * d4890
      (     NC)                            (5.41551)

Sum Sq     0.0219   Std Err    0.0243   LHS Mean   0.0138
R Sq      -0.0951   R Bar Sq  -0.1247   F  1, 37  -3.2129
D.W.( 1)   1.8760   D.W.( 2)   2.3973
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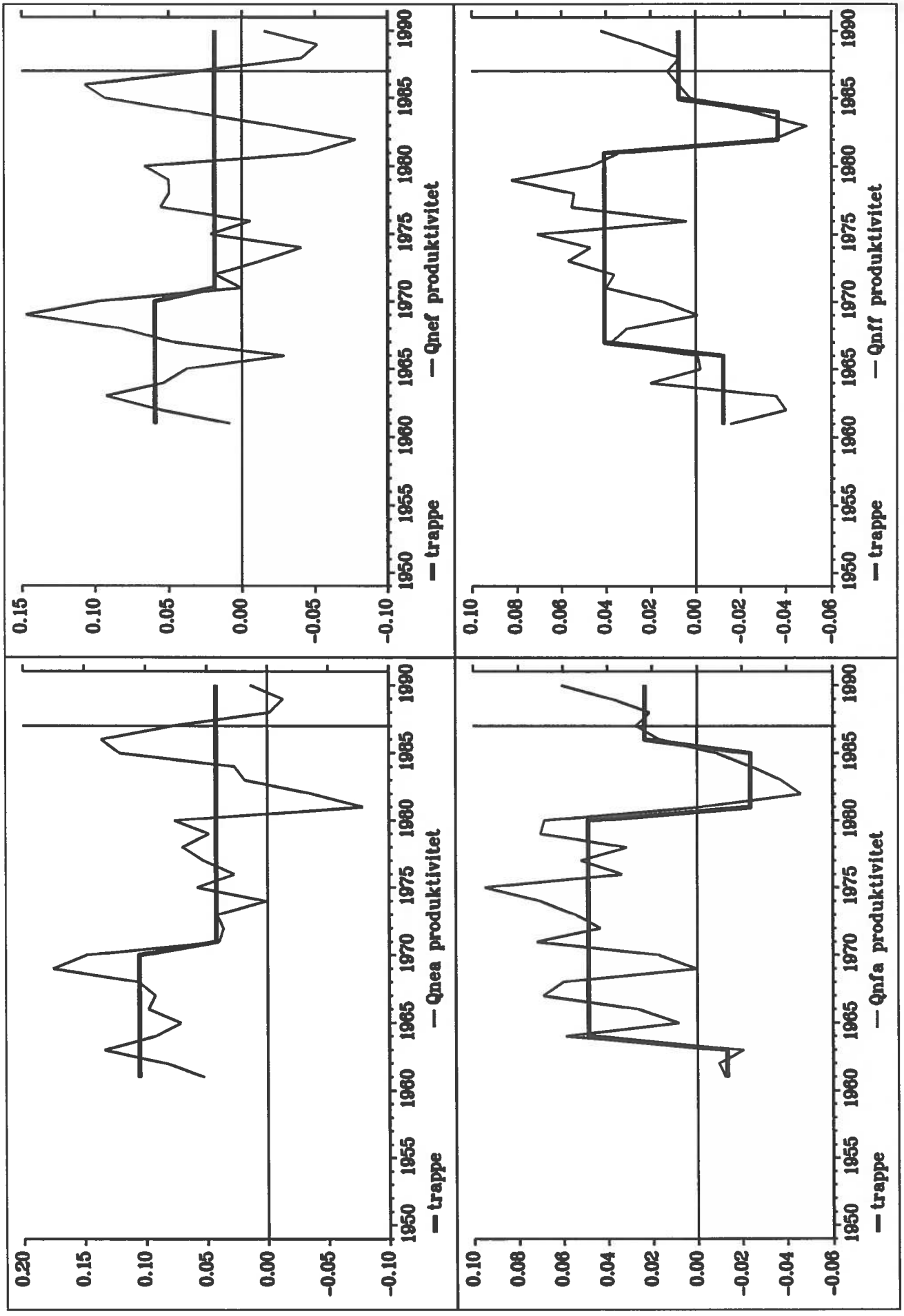
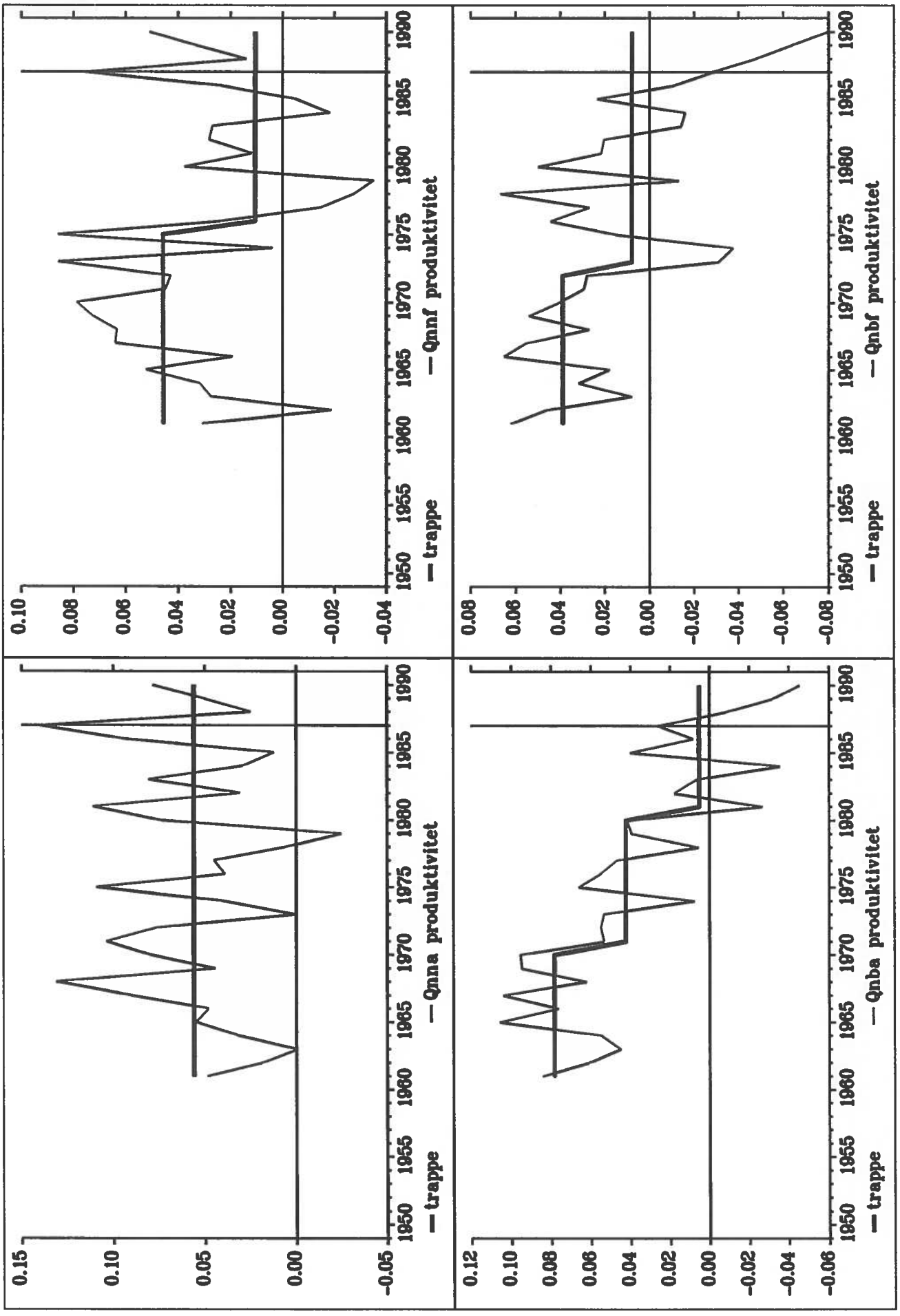
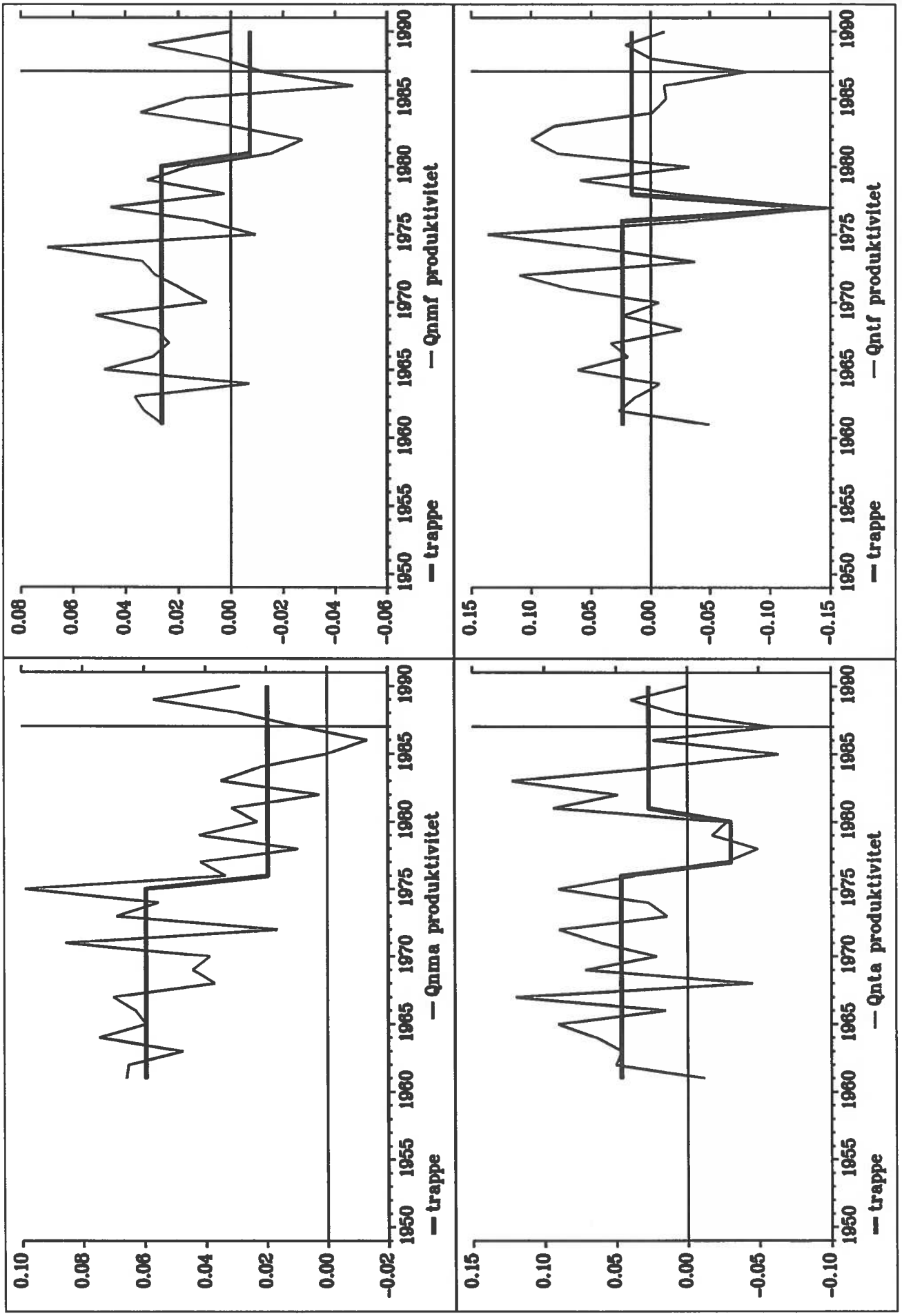
Appendiks B

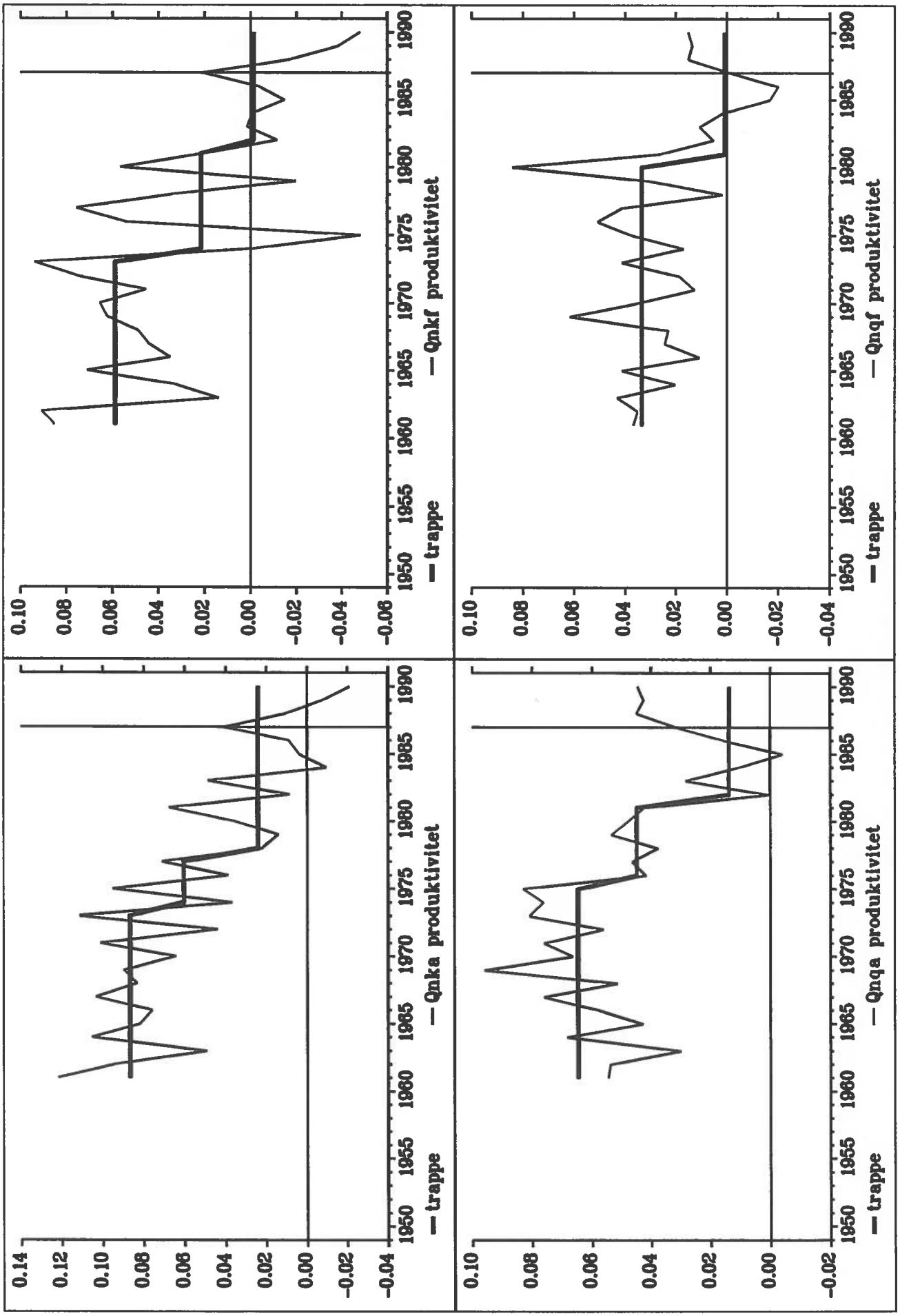
1) Produktivitetsstigninger fundet ved residualberegning. Tilpasningshastigheder som i det forrige papir (dvs. med tre undtagelser som appendiks A). Fortegn vendt.

2) Produktiviteter som i appendiks A. Fortegn vendt. Trappevariablen svarer altså til variablen Dtq_j med modsat fortegn.


0.20
0.15
0.10
0.05
0.00
-0.05
-0.10
1950 1955 1960 1965 1970 1975 1980 1985 1990
— trappe
— Qnea produktivitet
0.15
0.10
0.05
0.00
-0.05
-0.10
1950 1955 1960 1965 1970 1975 1980 1985 1990
— trappe
— Qnef produktivitet
0.10
0.08
0.06
0.04
0.02
0.00
-0.02
-0.04
-0.06
1950 1955 1960 1965 1970 1975 1980 1985 1990
— trappe
— Qnfa produktivitet
0.10
0.08
0.06
0.04
0.02
0.00
-0.02
-0.04
-0.06
1950 1955 1960 1965 1970 1975 1980 1985 1990
— trappe
— Qnff produktivitet


0.15
0.10
0.05
0.00
-0.05
1950 1955 1960 1965 1970 1975 1980 1985 1990
— trappe
— Qnna produktivitet
0.12
0.10
0.08
0.06
0.04
0.02
0.00
-0.02
-0.04
-0.06
1950 1955 1960 1965 1970 1975 1980 1985 1990
— trappe
— Qnba produktivitet
0.10
0.08
0.06
0.04
0.02
0.00
-0.02
-0.04
1950 1955 1960 1965 1970 1975 1980 1985 1990
— trappe
— Qnnf produktivitet
0.08
0.06
0.04
0.02
0.00
-0.02
-0.04
-0.06
-0.08
1950 1955 1960 1965 1970 1975 1980 1985 1990
— trappe
— Qnbf produktivitet


0.08
0.06
0.04
0.02
0.00
-0.02
-0.04
-0.06
1950 1955 1960 1965 1970 1975 1980 1985 1990
— trappe
— Qnmf produktivitet
0.15
0.10
0.05
0.00
-0.05
-0.10
-0.15
1950 1955 1960 1965 1970 1975 1980 1985 1990
— trappe
— Qntf produktivitet
0.10
0.08
0.06
0.04
0.02
0.00
-0.02
1950 1955 1960 1965 1970 1975 1980 1985 1990
— trappe
— Qnma produktivitet
0.15
0.10
0.05
0.00
-0.05
-0.10
1950 1955 1960 1965 1970 1975 1980 1985 1990
— trappe
— Qnta produktivitet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0.08
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0.02
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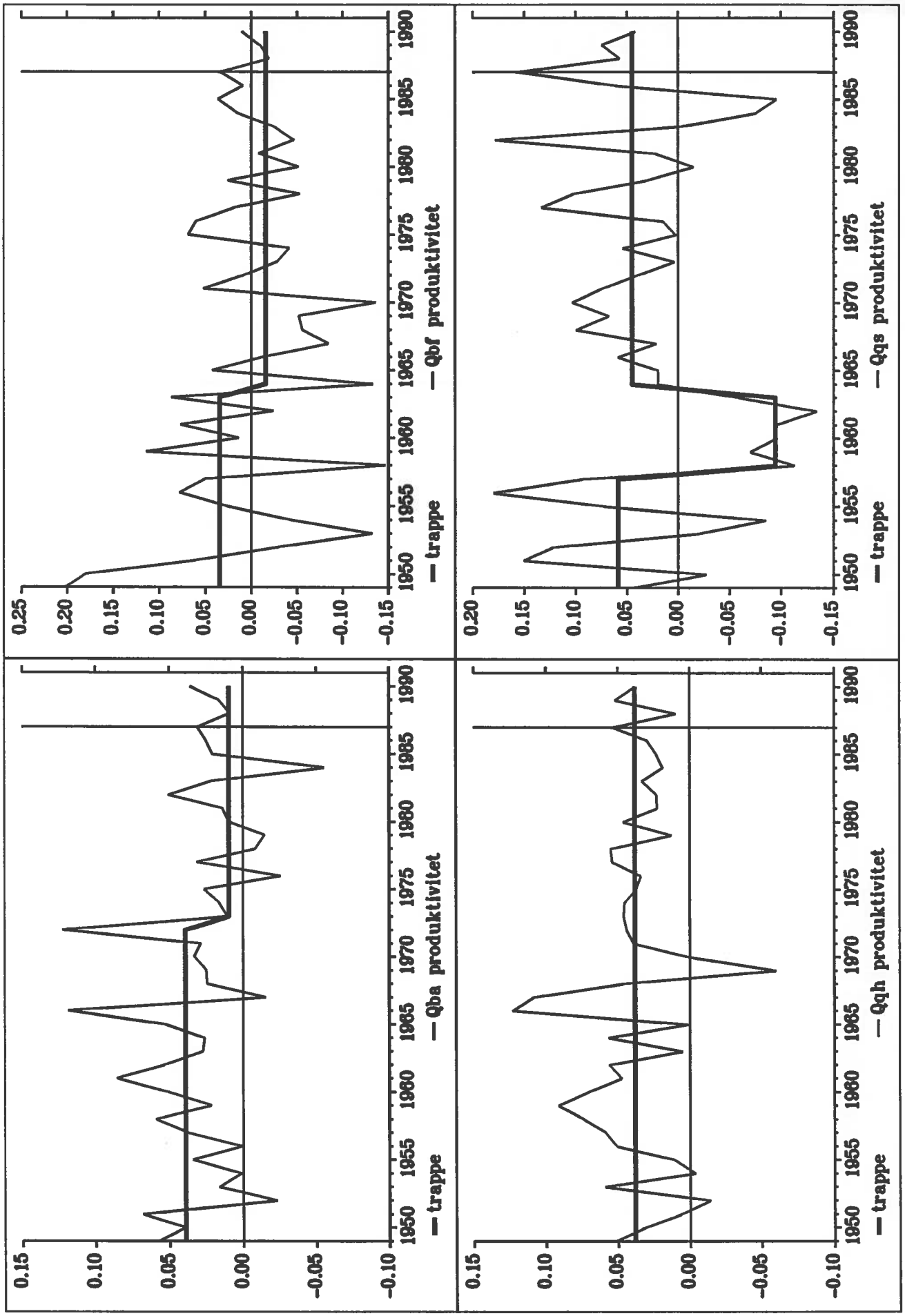
1950 1955 1960 1965 1970 1975 1980 1985 1990
— trappe
— Qnka produktivitet
0.10
0.08
0.06
0.04
0.02
0.00
-0.02
-0.04
-0.06
1950 1955 1960 1965 1970 1975 1980 1985 1990
— trappe
— Qnkf produktivitet
0.10
0.08
0.06
0.04
0.02
0.00
-0.02
1950 1955 1960 1965 1970 1975 1980 1985 1990
— trappe
— Qnqa produktivitet
0.10
0.08
0.06
0.04
0.02
0.00
-0.02
-0.04
1950 1955 1960 1965 1970 1975 1980 1985 1990
— trappe
— Qnqf produktivitet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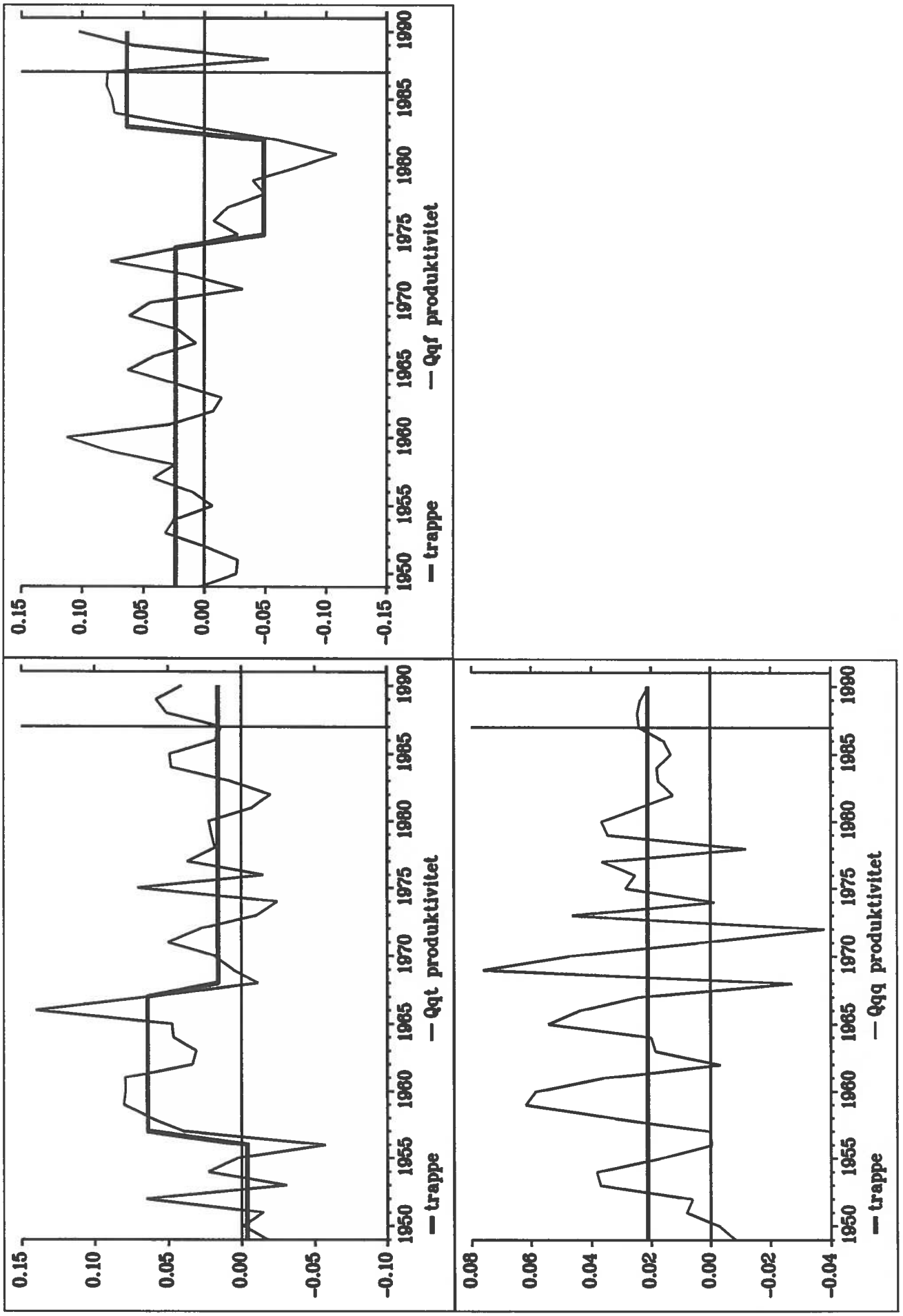
0.05
0.00
-0.05
-0.10
-0.15
1950 1955 1960 1965 1970 1975 1980 1985 1990
— trappe
— Qbf produktivitet
0.20
0.15
0.10
0.05
0.00
-0.05
-0.10
-0.15
1950 1955 1960 1965 1970 1975 1980 1985 1990
— trappe
— Qqs produktivitet
0.15
0.10
0.05
0.00
-0.05
-0.10
1950 1955 1960 1965 1970 1975 1980 1985 1990
— trappe
— Qba produktivitet
0.15
0.10
0.05
0.00
-0.05
-0.10
1950 1955 1960 1965 1970 1975 1980 1985 1990
— trappe
— Qqh produktivitet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0.10
0.05
0.00
-0.05
-0.10
-0.15
1950 1955 1960 1965 1970 1975 1980 1985 1990
— trappe
— Qqf produktivitet
— Qqt produktivitet
0.08
0.06
0.04
0.02
0.00
-0.02
-0.04
1950 1955 1960 1965 1970 1975 1980 1985
— Qqq produktivitet

Appendiks C

Modelligninger

```
()
() BESKÆFTIGELSE
()
()
FRML SQNEA  QNEA   = DQNEA*QNEA(-1)*EXP(JRQNEA) + (1-DQNEA)*QNEA(-1)
                     *EXP(.43694*LOG(FXNE/FXNE(-1))
                     +(1-.43694)*LOG(FXNE(-1)/FXNE(-2))
                     -.65*LOG((HHNN1*(1-BQNEA/2))/(HHNN1(-1)*(1-BQNEA(-1)/2)))
                     + DTQNEA + JRQNEA) $
FRML SQNEF  QNEF   = DQNEF*QNEF(-1)*EXP(JRQNEF) + (1-DQNEF)*QNEF(-1)
                     *EXP(.57481*LOG(FXNE/FXNE(-1))
                     +(1-.57481)*LOG(FXNE(-1)/FXNE(-2))
                     -.65*LOG((HHNN1*(1-BQNEF/2))/(HHNN1(-1)*(1-BQNEF(-1)/2)))
                     + DTQNEF + JRQNEF) $
FRML SQNFA  QNFA   = DQNFA*QNFA(-1)*EXP(JRQNFA) + (1-DQNFA)*QNFA(-1)
                     *EXP(.87471*LOG(FXNF/FXNF(-1))
                     +(1-.87471)*LOG(FXNF(-1)/FXNF(-2))
                     -.65*LOG((HHNN1*(1-BQNFA/2))/(HHNN1(-1)*(1-BQNFA(-1)/2)))
                     + DTQNFA + JRQNFA) $
FRML SQNFF  QNFF   = DQNFF*QNFF(-1)*EXP(JRQNFF) + (1-DQNFF)*QNFF(-1)
                     *EXP(.63189*LOG(FXNF/FXNF(-1))
                     +(1-.63189)*LOG(FXNF(-1)/FXNF(-2))
                     -.65*LOG((HHNN1*(1-BQNFF/2))/(HHNN1(-1)*(1-BQNFF(-1)/2)))
                     + DTQNFF + JRQNFF) $
FRML SQNNA  QNNA   = DQNNA*QNNA(-1)*EXP(JRQNNA) + (1-DQNNA)*QNNA(-1)
                     *EXP(.38542*LOG(FXNN/FXNN(-1))
                     +(1-.38542)*LOG(FXNN(-1)/FXNN(-2))
                     -.65*LOG((HHNN1*(1-BQNNA/2))/(HHNN1(-1)*(1-BQNNA(-1)/2)))
                     + DTQNNA + JRQNNA) $
FRML SQNNF  QNNF   = DQNNF*QNNF(-1)*EXP(JRQNNF) + (1-DQNNF)*QNNF(-1)
                     *EXP(.46611*LOG(FXNN/FXNN(-1))
                     +(1-.46611)*LOG(FXNN(-1)/FXNN(-2))
                     -.65*LOG((HHNN1*(1-BQNNF/2))/(HHNN1(-1)*(1-BQNNF(-1)/2)))
                     + DTQNNF + JRQNNF) $
FRML SQNBA  QNBA   = DQNBA*QNBA(-1)*EXP(JRQNBA) + (1-DQNBA)*QNBA(-1)
                     *EXP(.67444*LOG(FXNB/FXNB(-1))
                     +(1-.67444)*LOG(FXNB(-1)/FXNB(-2))
                     -.65*LOG((HHNN1*(1-BQNBA/2))/(HHNN1(-1)*(1-BQNBA(-1)/2)))
                     + DTQNBA + JRQNBA) $
FRML SQNBF  QNBF   = DQNBF*QNBF(-1)*EXP(JRQNBF) + (1-DQNBF)*QNBF(-1)
                     *EXP(.43094*LOG(FXNB/FXNB(-1))
                     +(1-.43094)*LOG(.3*FXNB(-1)/FXNB(-2)+.7*FXNB(-2)/FXNB(-3))
                     -.65*LOG((HHNN1*(1-BQNBF/2))/(HHNN1(-1)*(1-BQNBF(-1)/2)))
                     + DTQNBF + JRQNBF) $
FRML SQNMA  QNMA   = DQNMA*QNMA(-1)*EXP(JRQNMA) + (1-DQNMA)*QNMA(-1)
                     *EXP(.82727*LOG(FXNM/FXNM(-1))
                     +(1-.82727)*LOG(FXNM(-1)/FXNM(-2))
                     -.65*LOG((HHNN1*(1-BQNMA/2))/(HHNN1(-1)*(1-BQNMA(-1)/2)))
                     + DTQNMA + JRQNMA) $
FRML SQNMF  QNMF   = DQNMF*QNMF(-1)*EXP(JRQNMF) + (1-DQNMF)*QNMF(-1)
                     *EXP(.59918*LOG(FXNM/FXNM(-1))
                     +(1-.59918)*LOG(FXNM(-1)/FXNM(-2))
                     -.65*LOG((HHNN1*(1-BQNMF/2))/(HHNN1(-1)*(1-BQNMF(-1)/2)))
                     + DTQNMF + JRQNMF) $
FRML SQNTA  QNTA   = DQNTA*QNTA(-1)*EXP(JRQNTA) + (1-DQNTA)*QNTA(-1)
                     *EXP(.55918*LOG(FXNT/FXNT(-1))
                     +(1-.55918)*LOG(FXNT(-1)/FXNT(-2))
                     -.65*LOG((HHNN1*(1-BQNTA/2))/(HHNN1(-1)*(1-BQNTA(-1)/2)))
                     + DTQNTA + JRQNTA) $
FRML SQNTF  QNTF   = DQNTF*QNTF(-1)*EXP(JRQNTF) + (1-DQNTF)*QNTF(-1)
                     *EXP(.55644*LOG(FXNT/FXNT(-1))
                     +(1-.55644)*LOG(FXNT(-1)/FXNT(-2))
                     -.65*LOG((HHNN1*(1-BQNTF/2))/(HHNN1(-1)*(1-BQNTF(-1)/2)))
                     + DTQNTF + JRQNTF) $
FRML SQNKA  QNKA   = DQNKA*QNKA(-1)*EXP(JRQNKA) + (1-DQNKA)*QNKA(-1)
                     *EXP(.78453*LOG(FXNK/FXNK(-1))
                     +(1-.78453)*LOG(FXNK(-1)/FXNK(-2))
                     -.65*LOG((HHNN1*(1-BQNKA/2))/(HHNN1(-1)*(1-BQNKA(-1)/2)))
                     + DTQNKA + JRQNKA) $
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FRML SQNKF  QNKF   = DQNKF*QNKF(-1)*EXP(JRQNKF) + (1-DQNKF)*QNKF(-1)
                     *EXP(.55441*LOG(FXNK/FXNK(-1))
                     +(1-.55441)*LOG(FXNK(-1)/FXNK(-2))
                     -.65*LOG((HHNN1*(1-BQNKF/2))/(HHNN1(-1)*(1-BQNKF(-1)/2)))
                     + DTQNKF + JRQNKF) $
FRML SQNQA  QNQA   = DQNQA*QNQA(-1)*EXP(JRQNQA) + (1-DQNQA)*QNQA(-1)
                     *EXP(.79612*LOG(FXNQ/FXNQ(-1))
                     +(1-.79612)*LOG(FXNQ(-1)/FXNQ(-2))
                     -.65*LOG((HHNN1*(1-BQNQA/2))/(HHNN1(-1)*(1-BQNQA(-1)/2)))
                     + DTQNQA + JRQNQA) $
FRML SQNQF  QNQF   = DQNQF*QNQF(-1)*EXP(JRQNQF) + (1-DQNQF)*QNQF(-1)
                     *EXP(.64320*LOG(FXNQ/FXNQ(-1))
                     +(1-.64320)*LOG(FXNQ(-1)/FXNQ(-2))
                     -.65*LOG((HHNN1*(1-BQNQF/2))/(HHNN1(-1)*(1-BQNQF(-1)/2)))
                     + DTQNQF + JRQNQF) $
FRML SQBA   QBA    = DQBA*QBA(-1)*EXP(JRQBA) + (1-DQBA)*QBA(-1)
                     *EXP(.85269*LOG(FXB/FXB(-1))
                     +(1-.85269)*LOG(FXB(-1)/FXB(-2))
                     -.65*LOG((HA*(1-BQBA/2))/(HA(-1)*(1-BQBA(-1)/2)))
                     + DTQBA + JRQBA) $
FRML SQBF   QBF    = DQBF*QBF(-1)*EXP(JRQBF) + (1-DQBF)*QBF(-1)
                     *EXP(.60116*LOG(FXB/FXB(-1))
                     +(1-.60116)*LOG(FXB(-1)/FXB(-2))
                     -.65*LOG((HA*(1-BQBF/2))/(HA(-1)*(1-BQBF(-1)/2)))
                     + DTQBF + JRQBF) $
FRML SQQH   QQH    = DQQH*QQH(-1)*EXP(JRQQH) + (1-DQQH)*QQH(-1)
                     *EXP(.65910*LOG(FXQH/FXQH(-1))
                     +(1-.65910)*LOG(FXQH(-1)/FXQH(-2))
                     -.65*LOG((HA*(1-BQQH/2))/(HA(-1)*(1-BQQH(-1)/2)))
                     + DTQQH + JRQQH) $
FRML SQQS   QQS    = DQQS*QQS(-1)*EXP(JRQQS) + (1-DQQS)*QQS(-1)
                     *EXP(.44004*LOG(FXQS/FXQS(-1))
                     +(1-.44004)*LOG(FXQS(-1)/FXQS(-2))
                     -.65*LOG((HA*(1-BQQS/2))/(HA(-1)*(1-BQQS(-1)/2)))
                     + DTQQS + JRQQS) $
FRML SQQT   QQT    = DQQT*QQT(-1)*EXP(JRQQT) + (1-DQQT)*QQT(-1)
                     *EXP(.49038*LOG(FXQT/FXQT(-1))
                     +(1-.49038)*LOG(FXQT(-1)/FXQT(-2))
                     -.65*LOG((HA*(1-BQQT/2))/(HA(-1)*(1-BQQT(-1)/2)))
                     + DTQQT + JRQQT) $
FRML SQQF   QQF    = DQQF*QQF(-1)*EXP(JRQQF) + (1-DQQF)*QQF(-1)
                     *EXP(.42659*LOG(FXQF/FXQF(-1))
                     +(1-.42659)*LOG(FXQF(-1)/FXQF(-2))
                     -.65*LOG((HA*(1-BQQF/2))/(HA(-1)*(1-BQQF(-1)/2)))
                     + DTQQF + JRQQF) $
FRML SQQQ   QQQ    = DQQQ*QQQ(-1)*EXP(JRQQQ) + (1-DQQQ)*QQQ(-1)
                     *EXP(.40994*LOG(FXQQ/FXQQ(-1))
                     +(1-.40994)*LOG(FXQQ(-1)/FXQQ(-2))
                     -.65*LOG((HA*(1-BQQQ/2))/(HA(-1)*(1-BQQQ(-1)/2)))
                     + DTQQQ + JRQQQ) $
```