WORKING PAPER

Firmendatenbasiertes Benchmarking der Industrie und des Dienstleistungssektors in Niedersachsen – Methodisches Konzept und Anwendungen –

- ANHANG II -

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Anhang: Stata do-file für die Benchmarking-Berechnungen

1. Industrie (hier: Beispieljahr 2003)

```
* Bundeslaender-Dummies generieren


generate bundesland_2003 = M_land_2003
tab bundesland_2003

generate schles_hol_2003 = 0
replace schles_hol_2003 = 1 if bundesland_2003 == 1

generate hamburg_2003 = 0
replace hamburg_2003 = 1 if bundesland_2003 == 2

generate nieders_2003 = 0
replace nieders_2003 = 1 if bundesland_2003 == 3

generate bremen_2003 = 0
replace bremen_2003 = 1 if bundesland_2003 == 4

generate nordrh_west_2003 = 0
replace nordrh_west_2003 = 1 if bundesland_2003 == 5

generate hessen_2003 = 0
replace hessen_2003 = 1 if bundesland_2003 == 6

generate rhein_pfalz_2003 = 0
replace rhein_pfalz_2003 = 1 if bundesland_2003 == 7

generate baden_wuer_2003 = 0
replace baden_wuer_2003 = 1 if bundesland_2003 == 8

generate bayern_2003 = 0
replace bayern_2003 = 1 if bundesland_2003 == 9

generate saarland_2003 = 0
replace saarland_2003 = 1 if bundesland_2003 == 10

generate berlin_2003 = 0
replace berlin_2003 = 1 if bundesland_2003 == 11

generate brandenburg_2003 = 0
replace brandenburg_2003 = 1 if bundesland_2003 == 12

generate meck_pomm_2003 = 0
replace meck_pomm_2003 = 1 if bundesland_2003 == 13

generate sachsen_2003 = 0
replace sachsen_2003 = 1 if bundesland_2003 == 14

generate sachs_anha_2003 = 0
replace sachs_anha_2003 = 1 if bundesland_2003 == 15

generate thueringen_2003 = 0
replace thueringen_2003 = 1 if bundesland_2003 == 16


* Benchmark-Variablen generieren


* Benchmark-Variable 1: Arbeitsproduktivitaet = Bruttowertschaepfung zu Faktorkosten pro taetige
Person (€)

#delimit ;

generate aprod_2003 = (EF46_2003 - EF50_2003 + EF51_2003 - EF52_2003 - EF56_2003 + EF57_2003
                     - EF58_2003 - EF64_2003 - EF63_2003 - EF65_2003 - EF66_2003 - EF68_2003
                     - EF71_2003 + EF80_2003) / EF27_2003;

tabstat aprod_2003, statistics(n mean sd p1 p10 p25 p50 p75 p90 p99);

#delimit cr
```

```
* Benchmark-Variable 2: Umsatzrendite = Bruttobetriebsueberschuss/Gesamtleistung (Prozent)

#delimit ;


generate rendite_2003 = ((EF46_2003 - EF50_2003 + EF51_2003 - EF52_2003 - EF56_2003 + EF57_2003
                     - EF58_2003 - EF64_2003 - EF63_2003 - EF65_2003 - EF66_2003 - EF68_2003
                     - EF71_2003 + EF80_2003 - EF60_2003 - EF61_2003 - EF62_2003) / EF46_2003) *
100;


tabstat rendite_2003, statistics(n mean sd p1 p10 p25 p50 p75 p90 p99);

#delimit cr


* Benchmark-Variable 3: Anteil Export am Gesamtumsatz (Prozent)

generate expshare_2003 = M26_2003 / M27_2003 * 100
tabstat expshare_2003, statistics(n mean sd p1 p10 p25 p50 p75 p90 p99)


* Benchmark-Variable 4: Subventionen pro beschaeftigte Person (€)

generate subvent_2003 =  EF80_2003 / EF27_2003
tabstat subvent_2003, statistics(n mean sd p1 p10 p25 p50 p75 p90 p99)


* Benchmark-Variable 5: Anteil Beschaeftigte in Forschung und Entwicklung (Prozent)

generate fuebesch_2003 = EF87_2003 / EF27_2003 * 100
tabstat fuebesch_2003, statistics(n mean sd p1 p10 p25 p50 p75 p90 p99)


* Benchmark-Variable 6: Anteil des wichtigsten Produkts an der Gesamtproduktion (Prozent)

generate antprod_2003 = pef7_1_2003 / pef7_sum_2003 * 100
tabstat antprod_2003, statistics(n mean sd p1 p10 p25 p50 p75 p90 p99)


* Kontrollvariable 1: WZ-4-Steller Dummy-Variablen

qui tab M_wz_2003, gen(M_wz_2003_d)

* Kontrollvariable 2: Unternehmensgroesse = Anzahl taetige Personen (auch quadriert)

generate pers_2003 = Mpers_2003
generate pers_sq_2003 = pers_2003 * pers_2003

tabstat pers_2003, statistics(n mean sd p1 p10 p25 p50 p75 p90 p99)


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* Analysen fuer 2003

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* Benchmarkindikator 1: Arbeitsproduktivität

* ******************************************************************************************


* 1. Unterschiede im Mittelwert (t-Test mit unequal)und in den Verteilungen

sort bundesland_2003
by bundesland_2003: tabstat aprod_2003, statistics(n mean sd p1 p10 p25 p50 p75 p90 p99)


* Niedersachsen vs. Schleswig-Holstein

generate compare_2003 = 0 if nieders_2003 == 1
replace compare_2003 = 1 if schles_hol_2003 == 1

ttest aprod_2003, by(compare_2003) unequal
```

```
ksmirnov aprod_2003, by(compare_2003) exact

drop compare_2003

* Niedersachsen vs. Hamburg

generate compare_2003 = 0 if nieders_2003 == 1
replace compare_2003 = 1 if hamburg_2003 == 1

ttest aprod_2003, by(compare_2003) unequal
ksmirnov aprod_2003, by(compare_2003) exact

drop compare_2003

* Niedersachsen vs. Bremen

generate compare_2003 = 0 if nieders_2003 == 1
replace compare_2003 = 1 if bremen_2003 == 1

ttest aprod_2003, by(compare_2003) unequal
ksmirnov aprod_2003, by(compare_2003) exact

drop compare_2003

* Niedersachsen vs. Nordrhein-Westfalen

generate compare_2003 = 0 if nieders_2003 == 1
replace compare_2003 = 1 if nordrh_west_2003 == 1

ttest aprod_2003, by(compare_2003) unequal
ksmirnov aprod_2003, by(compare_2003) exact

drop compare_2003

* Niedersachsen vs. Hessen

generate compare_2003 = 0 if nieders_2003 == 1
replace compare_2003 = 1 if hessen_2003 == 1

ttest aprod_2003, by(compare_2003) unequal
ksmirnov aprod_2003, by(compare_2003) exact

drop compare_2003

* Niedersachsen vs. Rheinland-Pfalz

generate compare_2003 = 0 if nieders_2003 == 1
replace compare_2003 = 1 if rhein_pfalz_2003 == 1

ttest aprod_2003, by(compare_2003) unequal
ksmirnov aprod_2003, by(compare_2003) exact

drop compare_2003

* Niedersachsen vs. Baden-Wuerttemberg

generate compare_2003 = 0 if nieders_2003 == 1
replace compare_2003 = 1 if baden_wuer_2003 == 1

ttest aprod_2003, by(compare_2003) unequal
ksmirnov aprod_2003, by(compare_2003) exact

drop compare_2003

* Niedersachsen vs. Bayern

generate compare_2003 = 0 if nieders_2003 == 1
replace compare_2003 = 1 if bayern_2003 == 1

ttest aprod_2003, by(compare_2003) unequal
ksmirnov aprod_2003, by(compare_2003) exact

drop compare_2003

* Niedersachsen vs. Saarland

generate compare_2003 = 0 if nieders_2003 == 1
replace compare_2003 = 1 if saarland_2003 == 1
```

```
ttest aprod_2003, by(compare_2003) unequal
ksmirnov aprod_2003, by(compare_2003) exact

drop compare_2003

* Niedersachsen vs. Berlin

generate compare_2003 = 0 if nieders_2003 == 1
replace compare_2003 = 1 if berlin_2003 == 1

ttest aprod_2003, by(compare_2003) unequal
ksmirnov aprod_2003, by(compare_2003) exact

drop compare_2003

* Niedersachsen vs. Brandenburg

generate compare_2003 = 0 if nieders_2003 == 1
replace compare_2003 = 1 if brandenburg_2003 == 1

ttest aprod_2003, by(compare_2003) unequal
ksmirnov aprod_2003, by(compare_2003) exact

drop compare_2003

* Niedersachsen vs. Mecklenburg-Vorpommern

generate compare_2003 = 0 if nieders_2003 == 1
replace compare_2003 = 1 if meck_pomm_2003 == 1

ttest aprod_2003, by(compare_2003) unequal
ksmirnov aprod_2003, by(compare_2003) exact

drop compare_2003

* Niedersachsen vs. Sachsen

generate compare_2003 = 0 if nieders_2003 == 1
replace compare_2003 = 1 if sachsen_2003 == 1

ttest aprod_2003, by(compare_2003) unequal
ksmirnov aprod_2003, by(compare_2003) exact

drop compare_2003

* Niedersachsen vs. Sachsen-Anhalt

generate compare_2003 = 0 if nieders_2003 == 1
replace compare_2003 = 1 if sachs_anha_2003 == 1

ttest aprod_2003, by(compare_2003) unequal
ksmirnov aprod_2003, by(compare_2003) exact

drop compare_2003

* Niedersachsen vs. Thueringen

generate compare_2003 = 0 if nieders_2003 == 1
replace compare_2003 = 1 if thueringen_2003 == 1

ttest aprod_2003, by(compare_2003) unequal
ksmirnov aprod_2003, by(compare_2003) exact

drop compare_2003


* 2. Regressionsmodelle zur Schaetzung der "Niedersachsen-Praemie"

#delimit ;

areg aprod_2003 schles_hol_2003 hamburg_2003 bremen_2003 nordrh_west_2003
                        hessen_2003 rhein_pfalz_2003 baden_wuer_2003 bayern_2003 saarland_2003
                        berlin_2003 brandenburg_2003 meck_pomm_2003 sachsen_2003
                        sachs_anha_2003 thueringen_2003 pers_2003 pers_sq_2003,
                        absorb(M_wz_2003)vce(cluster bundesland_2003);

#delimit cr
```

```
* ************************************************************************************************

* Die Berechnungen für die anderen Indikatoren werden entsprechend durchgeführt -
* aprod_2003 wird dabei durch rendite_2003 etc. ersetzt

* ************************************************************************************************
```

2. Unternehmensnahe Dienstleistungen bis 2007 (hier: Beispieljahr 2003)

```
* Auswahl: Unternehmen aus Abschnitt K

replace ef11_2003 = ef11_2003 * 1000 if ef11_2003 >= 70 & ef11_2003 <= 75
replace ef11_2003 = ef11_2003 * 100 if ef11_2003 >= 700 & ef11_2003 <= 750
replace ef11_2003 = ef11_2003 * 10 if ef11_2003 >= 7000 & ef11_2003 <= 7500


keep if ef11_2003 >= 70000 & ef11_2003 <= 75000


* Auswahl: Unternehmen mit einem Umsatz >= 250 000 Euro und mindestens
*          einem sozialversicherungspflichtig Beschaeftigten

keep if ef21_2003 >= 250000 & ef21_2003 !=. & ef22_2003 !=0 & ef22_2003 !=.
keep if ef34_2003 >= 1 & ef34_2003 !=.


* Bundeslaender-Dummies generieren


generate bundesland_2003 = ef4_2003
tab bundesland_2003

generate schles_hol_2003 = 0
replace schles_hol_2003 = 1 if bundesland_2003 == 1

generate hamburg_2003 = 0
replace hamburg_2003 = 1 if bundesland_2003 == 2

generate nieders_2003 = 0
replace nieders_2003 = 1 if bundesland_2003 == 3

generate bremen_2003 = 0
replace bremen_2003 = 1 if bundesland_2003 == 4

generate nordrh_west_2003 = 0
replace nordrh_west_2003 = 1 if bundesland_2003 == 5

generate hessen_2003 = 0
replace hessen_2003 = 1 if bundesland_2003 == 6

generate rhein_pfalz_2003 = 0
replace rhein_pfalz_2003 = 1 if bundesland_2003 == 7

generate baden_wuer_2003 = 0
replace baden_wuer_2003 = 1 if bundesland_2003 == 8

generate bayern_2003 = 0
replace bayern_2003 = 1 if bundesland_2003 == 9

generate saarland_2003 = 0
replace saarland_2003 = 1 if bundesland_2003 == 10

generate berlin_2003 = 0
replace berlin_2003 = 1 if bundesland_2003 == 11

generate brandenburg_2003 = 0
replace brandenburg_2003 = 1 if bundesland_2003 == 12

generate meck_pomm_2003 = 0
replace meck_pomm_2003 = 1 if bundesland_2003 == 13

generate sachsen_2003 = 0
replace sachsen_2003 = 1 if bundesland_2003 == 14

generate sachs_anha_2003 = 0
```

```
replace sachs_anha_2003 = 1 if bundesland_2003 == 15

generate thueringen_2003 = 0
replace thueringen_2003 = 1 if bundesland_2003 == 16


* Benchmark-Variable 1: Arbeitsproduktivitaet = Bruttowertschoepfung pro
*                                               taetige Person

  * Berechnung der Bruttowertschöpfung

    gen valadd_2003 =.
    replace valadd_2003 = ef21_2003 - ef45_2003 + (ef58_2003 - ef57_2003) - ef71_2003 +
ef81_2003 + ef65_2003

  * Bruttowertschoepfung je taetige Person (€)

    gen aprod_2003 = .
    replace aprod_2003 = valadd_2003 / ef31_2003

tabstat aprod_2003, statistics(n mean sd p1 p10 p25 p50 p75 p90 p99)


* Benchmark-Variable 2: Umsatzrendite = Betriebsueberschuss / Umsatz (Prozent)

    gen rendite_2003 = .
    replace rendite_2003 = (valadd_2003 - ef41_2003 - ef42_2003) / (ef22_2003 -(ef58_2003 -
ef57_2003)) * 100

tabstat rendite_2003, statistics(n mean sd p1 p10 p25 p50 p75 p90 p99)


* Benchmark-Variable 3: Anteil Exporte am Gesamtumsatz (Prozent)

    generate expshare_2003 = .
    replace expshare_2003 = ef24_2003 / ef22_2003 * 100
    replace expshare_2003 = 0 if ef24_2003 == 0

tabstat expshare_2003, statistics(n mean sd p1 p10 p25 p50 p75 p90 p99)

* Kontrollvariable 1: WZ-5-Steller Dummy-Variablen

    gen M_wz_2003 = ef11_2003
    qui tab ef11_2003, gen(M_wz_2003_d)

* Kontrollvariable 2: Unternehmensgroesse = Anzahl taetige Personen (auch quadriert)

   gen pers_2003 = ef31_2003
   gen pers_sq_2003 = pers_2003 * pers_2003

tabstat pers_2003, statistics(n mean sd p1 p10 p25 p50 p75 p90 p99)


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* Analysen fuer 2003

* ------------------------------------------------------------------------------------------

* ******************************************************************************************

* Benchmarkindikator 1: Arbeitsproduktivität

* ******************************************************************************************

preserve

tabstat aprod_2003, statistics(n mean sd p1 p10 p25 p50 p75 p90 p99)

* Markieren und Loeschen von Ausreissern

gen outlier = .


               foreach var in aprod_2003 {

                      quietly sum `var', d
```

```
                    replace outlier=1     if `var'!=. & (`var'<=r(p1) | `var'>=r(p99))
        // Entfernen von Ausreißern - 1. und 99. Perzentil
                    }

drop if outlier == 1
drop outlier

tabstat aprod_2003, statistics(n mean sd p1 p10 p25 p50 p75 p90 p99)

* 1. Unterschiede im Mittelwert (t-Test mit unequal)und in den Verteilungen

sort bundesland_2003
by bundesland_2003: tabstat aprod_2003, statistics(n mean sd p1 p10 p25 p50 p75 p90 p99)


* Niedersachsen vs. Schleswig-Holstein

generate compare_2003 = 0 if nieders_2003 == 1
replace compare_2003 = 1 if schles_hol_2003 == 1

ttest aprod_2003, by(compare_2003) unequal
ksmirnov aprod_2003, by(compare_2003) exact

drop compare_2003

* Niedersachsen vs. Hamburg

generate compare_2003 = 0 if nieders_2003 == 1
replace compare_2003 = 1 if hamburg_2003 == 1

ttest aprod_2003, by(compare_2003) unequal
ksmirnov aprod_2003, by(compare_2003) exact

drop compare_2003

* Niedersachsen vs. Bremen

generate compare_2003 = 0 if nieders_2003 == 1
replace compare_2003 = 1 if bremen_2003 == 1

ttest aprod_2003, by(compare_2003) unequal
ksmirnov aprod_2003, by(compare_2003) exact

drop compare_2003

* Niedersachsen vs. Nordrhein-Westfalen

generate compare_2003 = 0 if nieders_2003 == 1
replace compare_2003 = 1 if nordrh_west_2003 == 1

ttest aprod_2003, by(compare_2003) unequal
ksmirnov aprod_2003, by(compare_2003) exact

drop compare_2003

* Niedersachsen vs. Hessen

generate compare_2003 = 0 if nieders_2003 == 1
replace compare_2003 = 1 if hessen_2003 == 1

ttest aprod_2003, by(compare_2003) unequal
ksmirnov aprod_2003, by(compare_2003) exact

drop compare_2003

* Niedersachsen vs. Rheinland-Pfalz

generate compare_2003 = 0 if nieders_2003 == 1
replace compare_2003 = 1 if rhein_pfalz_2003 == 1

ttest aprod_2003, by(compare_2003) unequal
ksmirnov aprod_2003, by(compare_2003) exact

drop compare_2003

* Niedersachsen vs. Baden-Wuerttemberg

generate compare_2003 = 0 if nieders_2003 == 1
```

```
replace compare_2003 = 1 if baden_wuer_2003 == 1

ttest aprod_2003, by(compare_2003) unequal
ksmirnov aprod_2003, by(compare_2003) exact

drop compare_2003

* Niedersachsen vs. Bayern

generate compare_2003 = 0 if nieders_2003 == 1
replace compare_2003 = 1 if bayern_2003 == 1

ttest aprod_2003, by(compare_2003) unequal
ksmirnov aprod_2003, by(compare_2003) exact

drop compare_2003

* Niedersachsen vs. Saarland

generate compare_2003 = 0 if nieders_2003 == 1
replace compare_2003 = 1 if saarland_2003 == 1

ttest aprod_2003, by(compare_2003) unequal
ksmirnov aprod_2003, by(compare_2003) exact

drop compare_2003

* Niedersachsen vs. Berlin

generate compare_2003 = 0 if nieders_2003 == 1
replace compare_2003 = 1 if berlin_2003 == 1

ttest aprod_2003, by(compare_2003) unequal
ksmirnov aprod_2003, by(compare_2003) exact

drop compare_2003

* Niedersachsen vs. Brandenburg

generate compare_2003 = 0 if nieders_2003 == 1
replace compare_2003 = 1 if brandenburg_2003 == 1

ttest aprod_2003, by(compare_2003) unequal
ksmirnov aprod_2003, by(compare_2003) exact

drop compare_2003

* Niedersachsen vs. Mecklenburg-Vorpommern

generate compare_2003 = 0 if nieders_2003 == 1
replace compare_2003 = 1 if meck_pomm_2003 == 1

ttest aprod_2003, by(compare_2003) unequal
ksmirnov aprod_2003, by(compare_2003) exact

drop compare_2003

* Niedersachsen vs. Sachsen

generate compare_2003 = 0 if nieders_2003 == 1
replace compare_2003 = 1 if sachsen_2003 == 1

ttest aprod_2003, by(compare_2003) unequal
ksmirnov aprod_2003, by(compare_2003) exact

drop compare_2003

* Niedersachsen vs. Sachsen-Anhalt

generate compare_2003 = 0 if nieders_2003 == 1
replace compare_2003 = 1 if sachs_anha_2003 == 1

ttest aprod_2003, by(compare_2003) unequal
ksmirnov aprod_2003, by(compare_2003) exact

drop compare_2003

* Niedersachsen vs. Thueringen
```

```
generate compare_2003 = 0 if nieders_2003 == 1
replace compare_2003 = 1 if thueringen_2003 == 1

ttest aprod_2003, by(compare_2003) unequal
ksmirnov aprod_2003, by(compare_2003) exact

drop compare_2003


* 2. Regressionsmodelle zur Schaetzung der "Niedersachsen-Praemie"

#delimit ;

areg aprod_2003 schles_hol_2003 hamburg_2003 bremen_2003 nordrh_west_2003
                        hessen_2003 rhein_pfalz_2003 baden_wuer_2003 bayern_2003 saarland_2003
                        berlin_2003 brandenburg_2003 meck_pomm_2003 sachsen_2003
                        sachs_anha_2003 thueringen_2003 pers_2003 pers_sq_2003,
                        absorb(M_wz_2003)vce(r);

#delimit cr


* ********************************************************************************************

* Die Berechnungen für die anderen Indikatoren werden entsprechend durchgeführt -
* aprod_2003 wird dabei durch rendite_2003 etc. ersetzt

* ********************************************************************************************
```

3. Unternehmensnahe Dienstleistungen ab 2008 (hier: Beispieljahr 2008)

```
* Auswahl: Unternehmen aus Abschnitten L, M, N und aus Abteilung S/95

keep if EF11 >= 68000 & EF11 != .


* Auswahl: Unternehmen mit einem Umsatz >= 250 000 Euro

keep if EF21 >= 250000 & EF21 !=. & EF22 > 0 & EF22 != .


* Bundeslaender-Dummies generieren


generate bundesland = EF4
tab bundesland

generate schles_hol = 0
replace schles_hol = 1 if bundesland == 1

generate hamburg = 0
replace hamburg = 1 if bundesland == 2

generate nieders = 0
replace nieders = 1 if bundesland == 3

generate bremen = 0
replace bremen = 1 if bundesland == 4

generate nordrh_west = 0
replace nordrh_west = 1 if bundesland == 5

generate hessen = 0
replace hessen = 1 if bundesland == 6

generate rhein_pfalz = 0
replace rhein_pfalz = 1 if bundesland == 7

generate baden_wuer = 0
replace baden_wuer = 1 if bundesland == 8

generate bayern = 0
replace bayern = 1 if bundesland == 9

generate saarland = 0
```

```
replace saarland = 1 if bundesland == 10

generate berlin = 0
replace berlin = 1 if bundesland == 11

generate brandenburg = 0
replace brandenburg = 1 if bundesland == 12

generate meck_pomm = 0
replace meck_pomm = 1 if bundesland == 13

generate sachsen = 0
replace sachsen = 1 if bundesland == 14

generate sachs_anha = 0
replace sachs_anha = 1 if bundesland == 15

generate thueringen = 0
replace thueringen = 1 if bundesland == 16


* Benchmark-Variable 1: Arbeitsproduktivitaet = Bruttowertschoepfung pro
*                                               taetige Person

  * Berechnung der Bruttowertschöpfung

    gen valadd =.
    replace valadd = EF21 - EF45 + (EF58 - EF57) - EF71 + EF81 + EF65

  * Bruttowertschoepfung je taetige Person (€)

    gen aprod = .
    replace aprod = valadd / EF31

tabstat aprod, statistics(n mean sd p1 p10 p25 p50 p75 p90 p99)


* Benchmark-Variable 2: Umsatzrendite = Betriebsueberschuss / Umsatz (Prozent)

    gen rendite = .
    replace rendite = (valadd - EF41 - EF42) / (EF21 -(EF58 - EF57)) * 100

tabstat rendite, statistics(n mean sd p1 p10 p25 p50 p75 p90 p99)


* Benchmark-Variable 3: Anteil Exporte am Umsatz (Prozent)

    generate expshare = .
    replace expshare = EF23 / EF22 * 100
    replace expshare = 0 if EF23 == 0

tabstat expshare, statistics(n mean sd p1 p10 p25 p50 p75 p90 p99)

* Kontrollvariable 1: WZ-5-Steller Dummy-Variablen

    gen M_wz = EF11
    qui tab EF11, gen(M_wz_d)

* Kontrollvariable 2: Unternehmensgroesse = Anzahl taetige Personen (auch quadriert)

   gen pers = EF31
   gen pers_sq = pers * pers

tabstat pers, statistics(n mean sd p1 p10 p25 p50 p75 p90 p99)


* ------------------------------------------------------------------------------------------

* Analysen fuer 2008

* ------------------------------------------------------------------------------------------

* ******************************************************************************************

* Benchmarkindikator 1: Arbeitsproduktivität

* ******************************************************************************************
```

```
preserve

tabstat aprod, statistics(n mean sd p1 p10 p25 p50 p75 p90 p99)

* Markieren und Loeschen von Ausreissern

gen outlier = .


               foreach var in aprod {

                      quietly sum `var', d
                      replace outlier=1     if `var'!=. & (`var'<=r(p1) | `var'>=r(p99))
       // Entfernen von Ausreißern - 1. und 99. Perzentil
                      }

drop if outlier == 1
drop outlier

tabstat aprod, statistics(n mean sd p1 p10 p25 p50 p75 p90 p99)

* 1. Unterschiede im Mittelwert (t-Test mit unequal)und in den Verteilungen

sort bundesland
by bundesland: tabstat aprod, statistics(n mean sd p1 p10 p25 p50 p75 p90 p99)


* Niedersachsen vs. Schleswig-Holstein

generate compare = 0 if nieders == 1
replace compare = 1 if schles_hol == 1

ttest aprod, by(compare) unequal
ksmirnov aprod, by(compare) exact

drop compare

* Niedersachsen vs. Hamburg

generate compare = 0 if nieders == 1
replace compare = 1 if hamburg == 1

ttest aprod, by(compare) unequal
ksmirnov aprod, by(compare) exact

drop compare

* Niedersachsen vs. Bremen

generate compare = 0 if nieders == 1
replace compare = 1 if bremen == 1

ttest aprod, by(compare) unequal
ksmirnov aprod, by(compare) exact

drop compare

* Niedersachsen vs. Nordrhein-Westfalen

generate compare = 0 if nieders == 1
replace compare = 1 if nordrh_west == 1

ttest aprod, by(compare) unequal
ksmirnov aprod, by(compare) exact

drop compare

* Niedersachsen vs. Hessen

generate compare = 0 if nieders == 1
replace compare = 1 if hessen == 1

ttest aprod, by(compare) unequal
ksmirnov aprod, by(compare) exact

drop compare

* Niedersachsen vs. Rheinland-Pfalz
```

```
generate compare = 0 if nieders == 1
replace compare = 1 if rhein_pfalz == 1

ttest aprod, by(compare) unequal
ksmirnov aprod, by(compare) exact

drop compare

* Niedersachsen vs. Baden-Wuerttemberg

generate compare = 0 if nieders == 1
replace compare = 1 if baden_wuer == 1

ttest aprod, by(compare) unequal
ksmirnov aprod, by(compare) exact

drop compare

* Niedersachsen vs. Bayern

generate compare = 0 if nieders == 1
replace compare = 1 if bayern == 1

ttest aprod, by(compare) unequal
ksmirnov aprod, by(compare) exact

drop compare

* Niedersachsen vs. Saarland

generate compare = 0 if nieders == 1
replace compare = 1 if saarland == 1

ttest aprod, by(compare) unequal
ksmirnov aprod, by(compare) exact

drop compare

* Niedersachsen vs. Berlin

generate compare = 0 if nieders == 1
replace compare = 1 if berlin == 1

ttest aprod, by(compare) unequal
ksmirnov aprod, by(compare) exact

drop compare

* Niedersachsen vs. Brandenburg

generate compare = 0 if nieders == 1
replace compare = 1 if brandenburg == 1

ttest aprod, by(compare) unequal
ksmirnov aprod, by(compare) exact

drop compare

* Niedersachsen vs. Mecklenburg-Vorpommern

generate compare = 0 if nieders == 1
replace compare = 1 if meck_pomm == 1

ttest aprod, by(compare) unequal
ksmirnov aprod, by(compare) exact

drop compare

* Niedersachsen vs. Sachsen

generate compare = 0 if nieders == 1
replace compare = 1 if sachsen == 1

ttest aprod, by(compare) unequal
ksmirnov aprod, by(compare) exact

drop compare
```

```
* Niedersachsen vs. Sachsen-Anhalt

generate compare = 0 if nieders == 1
replace compare = 1 if sachs_anha == 1

ttest aprod, by(compare) unequal
ksmirnov aprod, by(compare) exact

drop compare

* Niedersachsen vs. Thueringen

generate compare = 0 if nieders == 1
replace compare = 1 if thueringen == 1

ttest aprod, by(compare) unequal
ksmirnov aprod, by(compare) exact

drop compare


* 2. Regressionsmodelle zur Schaetzung der "Niedersachsen-Praemie"

#delimit ;

areg aprod schles_hol hamburg bremen nordrh_west
                        hessen rhein_pfalz baden_wuer bayern saarland
                        berlin brandenburg meck_pomm sachsen
                        sachs_anha thueringen, absorb(M_wz)vce(r);

areg aprod schles_hol hamburg bremen nordrh_west
                        hessen rhein_pfalz baden_wuer bayern saarland
                        berlin brandenburg meck_pomm sachsen
                        sachs_anha thueringen pers pers_sq,
                        absorb(M_wz)vce(r);

#delimit cr


* ********************************************************************************************

* Die Berechnungen für die anderen Indikatoren werden entsprechend durchgeführt -
* aprod_2008 wird dabei durch rendite_2008 etc. ersetzt

* ********************************************************************************************
```