panel variable: idempresa (strongly balanced)

time variable: Ano, 2010 to 2017

delta: 1 unit

. \*\*\*\*\*\*\*\*\*\*\*\*\*\*\*\*\*\*\*\*\*\*\*\*\*\*\*\*\*\*\*\*\*\*\*\*\*\*\*\*\*\*\*\*\*\*\*\*\*\*\*\*\*\*\*\*\*\*\*\*\*\*\*\*\*\*\*\*\*\*\*\*\*\*\*\*\*\*\*\*\*\*\*\*\*\*\*\*\*\*\*\*\*\*\*\*\*\*\*\*\*\*\*\*\*\*\*\*\*\*\*\*\*\*\*\*\*\*\*\*\*\*\*\*\*\*\*\*\*\*\*\*\*\*\*\*\*\*\*\*\*\*\*\*

> \*\*\*\*\*

. \*\*\*\*\*\*\*\*\*\*\*\*\*\*\*\*\*\*\*\*\*\*\*\*\*\*\*\*\*\*\*\*\*\*\*\*\*\*\*\*\*\*\*\*\*\*\*\*\*\*\*\*\*\*\*\*\*\*\*\*\*\*\* CRIAÇÃO E DEFINIÇÃO DAS VARIÁVEIS \*\*\*\*\*\*\*\*\*\*\*\*\*\*\*\*\*\*\*\*\*\*\*\*\*\*\*\*\*\*\*\*\*\*\*\*\*\*\*\*\*\*\*\*\*\*

> \*\*\*\*\*\*\*\*\*\*\*\*\*\*\*\*\*\*\*\*\*\*\*

. \*\*\*\*\*\*\*\*\*\*\*\*\*\*\*\*\*\*\*\*\*\*\*\*\*\*\*\*\*\*\*\*\*\*\*\*\*\*\*\*\*\*\*\*\*\*\*\*\*\*\*\*\*\*\*\*\*\*\*\*\*\*\*\*\*\*\*\*\*\*\*\*\*\*\*\*\*\*\*\*\*\*\*\*\*\*\*\*\*\*\*\*\*\*\*\*\*\*\*\*\*\*\*\*\*\*\*\*\*\*\*\*\*\*\*\*\*\*\*\*\*\*\*\*\*\*\*\*\*\*\*\*\*\*\*\*\*\*\*\*\*\*\*\*

> \*\*\*\*\*

.

. \*\*\*\*\*\*\*\*\*\*\*\*\*\*\*\*\*\*\*\*\*\*\*\*\*\*\*\*\*\*\*\*\*\*\*\*\*\*\*\*\*\*\*\*\*\*\*\*\*\*\*\*\*\*\*\*\*\*\*\*\*\*\*\*\*\*\*\*\*\*\*\*\*\*\*\*\*\*\*\*\*\*\*\*\*\*\*\*\*\*\*\*\*\*\*\*\*\*\*\*\*\*\*\*\*\*

. \*\*\*\*\*\*\*\*\*\*\*\*\*\*\*\*\*\*\*\*\*\*\*\*\*\*\*\*\*\*\*\*\*\*\* ANÁLISES DESCRITIVAS \*\*\*\*\*\*\*\*\*\*\*\*\*\*\*\*\*\*\*\*\*\*\*\*\*\*\*\*\*\*\*\*\*\*\*\*\*\*\*\*\*\*\*\*\*\*\*\*\*

. \*\*\*\*\*\*\*\*\*\*\*\*\*\*\*\*\*\*\*\*\*\*\*\*\*\*\*\*\*\*\*\*\*\*\*\*\*\*\*\*\*\*\*\*\*\*\*\*\*\*\*\*\*\*\*\*\*\*\*\*\*\*\*\*\*\*\*\*\*\*\*\*\*\*\*\*\*\*\*\*\*\*\*\*\*\*\*\*\*\*\*\*\*\*\*\*\*\*\*\*\*\*\*\*\*\*

. codebook //mostra o dicionário das variáveis da base de dados que está sendo utilizada. É preciso ir no browse e alimentar cada variável.

--------------------------------------------------------------------------------------------------------------------------------------------------

ID ID

--------------------------------------------------------------------------------------------------------------------------------------------------

type: numeric (byte)

range: [1,40] units: 1

unique values: 40 missing .: 0/320

mean: 20.5

std. dev: 11.5615

percentiles: 10% 25% 50% 75% 90%

4.5 10.5 20.5 30.5 36.5

--------------------------------------------------------------------------------------------------------------------------------------------------

NOME NOME

--------------------------------------------------------------------------------------------------------------------------------------------------

type: string (str13)

unique values: 40 missing "": 0/320

examples: "COSAN"

"GERDAU MET"

"MRV"

"SABESP"

warning: variable has embedded and trailing blanks

--------------------------------------------------------------------------------------------------------------------------------------------------

Ano Ano

--------------------------------------------------------------------------------------------------------------------------------------------------

type: numeric (int)

range: [2010,2017] units: 1

unique values: 8 missing .: 0/320

tabulation: Freq. Value

40 2010

40 2011

40 2012

40 2013

40 2014

40 2015

40 2016

40 2017

--------------------------------------------------------------------------------------------------------------------------------------------------

LegNE LegNE

--------------------------------------------------------------------------------------------------------------------------------------------------

type: numeric (byte)

range: [0,58] units: 1

unique values: 46 missing .: 0/320

mean: 33.3031

std. dev: 10.4734

percentiles: 10% 25% 50% 75% 90%

19 28 36 40 45

--------------------------------------------------------------------------------------------------------------------------------------------------

LegCPC LegCPC

--------------------------------------------------------------------------------------------------------------------------------------------------

type: numeric (byte)

range: [50,50] units: 1

unique values: 1 missing .: 0/320

tabulation: Freq. Value

320 50

--------------------------------------------------------------------------------------------------------------------------------------------------

RevCPC RevCPC

--------------------------------------------------------------------------------------------------------------------------------------------------

type: numeric (byte)

range: [0,1] units: 1

unique values: 2 missing .: 0/320

tabulation: Freq. Value

200 0

120 1

--------------------------------------------------------------------------------------------------------------------------------------------------

CountLegNE CountLegNE

--------------------------------------------------------------------------------------------------------------------------------------------------

type: numeric (byte)

range: [8,20] units: 1

unique values: 13 missing .: 0/320

mean: 14.4187

std. dev: 2.34078

percentiles: 10% 25% 50% 75% 90%

12 13 14 16 17

--------------------------------------------------------------------------------------------------------------------------------------------------

LegNEsumpeso LegNE sum peso

--------------------------------------------------------------------------------------------------------------------------------------------------

type: numeric (int)

range: [1947,7535] units: 1

unique values: 306 missing .: 0/320

mean: 4801.37

std. dev: 1034.97

percentiles: 10% 25% 50% 75% 90%

3576 4139 4755.5 5456.5 6133

--------------------------------------------------------------------------------------------------------------------------------------------------

LegCPCSUMpeso LegCPC SUM peso

--------------------------------------------------------------------------------------------------------------------------------------------------

type: numeric (int)

range: [4152,11856] units: 1

unique values: 206 missing .: 0/320

mean: 8011.49

std. dev: 1364.37

percentiles: 10% 25% 50% 75% 90%

6519.5 7014 7867.5 8937 9722.5

--------------------------------------------------------------------------------------------------------------------------------------------------

LegNEMedio LegNE Medio

--------------------------------------------------------------------------------------------------------------------------------------------------

type: numeric (double)

range: [15.75,38.533333] units: 1.000e-07

unique values: 273 missing .: 0/320

mean: 28.7538

std. dev: 3.89215

percentiles: 10% 25% 50% 75% 90%

24.5 26.4702 28.7895 31.1271 33.7157

--------------------------------------------------------------------------------------------------------------------------------------------------

LegCPCMedio LegCPC Medio

--------------------------------------------------------------------------------------------------------------------------------------------------

type: numeric (double)

range: [43.307692,49.266667] units: 1.000e-07

unique values: 160 missing .: 0/320

mean: 45.9012

std. dev: 1.18779

percentiles: 10% 25% 50% 75% 90%

44.4188 45.0294 45.8667 46.6316 47.5147

--------------------------------------------------------------------------------------------------------------------------------------------------

TAM TAM

--------------------------------------------------------------------------------------------------------------------------------------------------

type: numeric (long)

range: [804536,9.001e+08] units: 1

unique values: 318 missing .: 0/320

mean: 5.3e+07

std. dev: 1.2e+08

percentiles: 10% 25% 50% 75% 90%

4.1e+06 9.2e+06 2.1e+07 4.3e+07 8.5e+07

--------------------------------------------------------------------------------------------------------------------------------------------------

COMPLEX COMPLEX

--------------------------------------------------------------------------------------------------------------------------------------------------

type: numeric (byte)

range: [1,7] units: 1

unique values: 7 missing .: 0/320

tabulation: Freq. Value

54 1

40 2

54 3

88 4

54 5

26 6

4 7

--------------------------------------------------------------------------------------------------------------------------------------------------

CAPIT CAPIT

--------------------------------------------------------------------------------------------------------------------------------------------------

type: numeric (byte)

range: [0,31] units: 1

unique values: 32 missing .: 0/320

mean: 18.625

std. dev: 9.18002

percentiles: 10% 25% 50% 75% 90%

6 10 19.5 27 30

--------------------------------------------------------------------------------------------------------------------------------------------------

GC GC

--------------------------------------------------------------------------------------------------------------------------------------------------

type: numeric (byte)

range: [0,1] units: 1

unique values: 2 missing .: 0/320

tabulation: Freq. Value

146 0

174 1

--------------------------------------------------------------------------------------------------------------------------------------------------

AUDIT AUDIT

--------------------------------------------------------------------------------------------------------------------------------------------------

type: numeric (byte)

range: [0,1] units: 1

unique values: 2 missing .: 0/320

tabulation: Freq. Value

20 0

300 1

--------------------------------------------------------------------------------------------------------------------------------------------------

EXT EXT

--------------------------------------------------------------------------------------------------------------------------------------------------

type: numeric (int)

range: [20,231] units: 1

unique values: 117 missing .: 0/320

mean: 86.3281

std. dev: 35.5438

percentiles: 10% 25% 50% 75% 90%

44.5 63 83 107.5 124

--------------------------------------------------------------------------------------------------------------------------------------------------

ADR ADR

--------------------------------------------------------------------------------------------------------------------------------------------------

type: numeric (byte)

range: [0,1] units: 1

unique values: 2 missing .: 0/320

tabulation: Freq. Value

200 0

120 1

--------------------------------------------------------------------------------------------------------------------------------------------------

SETOR SETOR

--------------------------------------------------------------------------------------------------------------------------------------------------

type: string (str19)

unique values: 9 missing "": 0/320

tabulation: Freq. Value

40 "Bens industriais"

56 "Consumo cíclico"

32 "Consumo não cíclico"

16 "Imóveis"

80 "Materiais básicos"

24 "Petróleo"

24 "Saúde"

8 "Telecomunicações"

40 "Utilidade pública"

warning: variable has embedded blanks

--------------------------------------------------------------------------------------------------------------------------------------------------

Reg\_Nreg Reg\_Nreg

--------------------------------------------------------------------------------------------------------------------------------------------------

type: numeric (byte)

range: [0,1] units: 1

unique values: 2 missing .: 0/320

tabulation: Freq. Value

224 0

96 1

--------------------------------------------------------------------------------------------------------------------------------------------------

ST\_CC ST\_CC

--------------------------------------------------------------------------------------------------------------------------------------------------

type: numeric (byte)

range: [0,1] units: 1

unique values: 2 missing .: 0/320

tabulation: Freq. Value

264 0

56 1

--------------------------------------------------------------------------------------------------------------------------------------------------

ST\_CNC ST\_CNC

--------------------------------------------------------------------------------------------------------------------------------------------------

type: numeric (byte)

range: [0,1] units: 1

unique values: 2 missing .: 0/320

tabulation: Freq. Value

288 0

32 1

--------------------------------------------------------------------------------------------------------------------------------------------------

ST\_MatB ST\_MatB

--------------------------------------------------------------------------------------------------------------------------------------------------

type: numeric (byte)

range: [0,1] units: 1

unique values: 2 missing .: 0/320

tabulation: Freq. Value

240 0

80 1

--------------------------------------------------------------------------------------------------------------------------------------------------

ST\_Imov ST\_Imov

--------------------------------------------------------------------------------------------------------------------------------------------------

type: numeric (byte)

range: [0,1] units: 1

unique values: 2 missing .: 0/320

tabulation: Freq. Value

304 0

16 1

--------------------------------------------------------------------------------------------------------------------------------------------------

ST\_Indus ST\_Indus

--------------------------------------------------------------------------------------------------------------------------------------------------

type: numeric (byte)

range: [0,1] units: 1

unique values: 2 missing .: 0/320

tabulation: Freq. Value

280 0

40 1

--------------------------------------------------------------------------------------------------------------------------------------------------

ST\_UtPub ST\_UtPub

--------------------------------------------------------------------------------------------------------------------------------------------------

type: numeric (byte)

range: [0,1] units: 1

unique values: 2 missing .: 0/320

tabulation: Freq. Value

280 0

40 1

--------------------------------------------------------------------------------------------------------------------------------------------------

ST\_Petro ST\_Petro

--------------------------------------------------------------------------------------------------------------------------------------------------

type: numeric (byte)

range: [0,1] units: 1

unique values: 2 missing .: 0/320

tabulation: Freq. Value

296 0

24 1

--------------------------------------------------------------------------------------------------------------------------------------------------

ST\_Saude ST\_Saude

--------------------------------------------------------------------------------------------------------------------------------------------------

type: numeric (byte)

range: [0,1] units: 1

unique values: 2 missing .: 0/320

tabulation: Freq. Value

296 0

24 1

--------------------------------------------------------------------------------------------------------------------------------------------------

ST\_TeleCom ST\_TeleCom

--------------------------------------------------------------------------------------------------------------------------------------------------

type: numeric (byte)

range: [0,1] units: 1

unique values: 2 missing .: 0/320

tabulation: Freq. Value

312 0

8 1

--------------------------------------------------------------------------------------------------------------------------------------------------

idempresa NOME

--------------------------------------------------------------------------------------------------------------------------------------------------

type: numeric (long)

label: NOME

range: [1,40] units: 1

unique values: 40 missing .: 0/320

examples: 8 COSAN

16 GERDAU MET

24 MRV

32 SABESP

. \*\*\*\*\*\*\*\*\*\*\*\*\*\*\*\*\*\*\*\*\*\*\*\*

. \*\*TRAlnrlENTO DAS VARIÁVEIS\*\*

. \*\*\*\*\*\*\*\*\*\*\*\*\*\*\*\*\*\*\*\*\*\*\*\*

.

. \*\*\*\*Visualizar normalidade das variáveis escalares

. \*\*\*\*\*\*\*\*LegNEsumpeso\*\*\*\*\*\*\*\*

.

.

.

. histogram LegNEMedio, norm

(bin=17, start=15.75, width=1.3401961)

. kdensity LegNEMedio, norm

. \*1)Tratando a normalidade da variável LegNE

. ladder LegNEMedio //traz as diversas alternativas para transformação da variável --> pega a de menor qui2

Transformation formula chi2(2) P(chi2)

------------------------------------------------------------------

cubic LegNEM~o^3 21.22 0.000

square LegNEM~o^2 5.13 0.077

identity LegNEM~o 4.53 0.104

square root sqrt(LegNEM~o) 14.54 0.001

log log(LegNEM~o) 30.61 0.000

1/(square root) 1/sqrt(LegNEM~o) 51.66 0.000

inverse 1/LegNEM~o . 0.000

1/square 1/(LegNEM~o^2) . 0.000

1/cubic 1/(LegNEM~o^3) . 0.000

. gladder LegNEMedio //demonstra em gráficos qual seria a melhor maneira de corrigir a normalidade dos dados --> manter a variável

. \*\* a tecnica para tratar os outliers deixou o modelo pior por isso não sera utilizada

.

. \*search winsorize, all

.

. \*\*\*\*\*\*\*\*LegCPCSUMpeso\*\*\*\*\*\*\*\*

. // não faria sentido o cálculo de normalidade pois é valor fixo

.

. histogram LegCPCMedio, norm

(bin=17, start=43.307692, width=.3505279)

. kdensity LegCPCMedio, norm

. \*1)Tratando a normalidade da variável LegNE

. ladder LegCPCSUMpeso //traz as diversas alternativas para transformação da variável --> pega a de menor qui2

Transformation formula chi2(2) P(chi2)

------------------------------------------------------------------

cubic LegCP~so^3 49.18 0.000

square LegCP~so^2 24.23 0.000

identity LegCP~so 5.98 0.050

square root sqrt(LegCP~so) 0.57 0.751

log log(LegCP~so) 4.61 0.100

1/(square root) 1/sqrt(LegCP~so) 19.61 0.000

inverse 1/LegCP~so 44.84 0.000

1/square 1/(LegCP~so^2) . 0.000

1/cubic 1/(LegCP~so^3) . 0.000

. gladder LegCPCSUMpeso //demonstra em gráficos qual seria a melhor maneira de corrigir a normalidade dos dados --> manter a variável

.

. gen srLegCPCSUMpeso = sqrt(LegCPCSUMpeso)

. histogram srLegCPCSUMpeso, norm

(bin=17, start=64.436012, width=2.6146617)

. kdensity srLegCPCSUMpeso, norm

.

. \*2)winsorização (técnica para tratar os outliers).

. graph box srLegCPCSUMpeso //muitos outliers \*Comentário teórico: O boxplot mostra os outliers.

. winsor srLegCPCSUMpeso, gen(wsrLegCPCSUMpeso) p(0.05) //não tem mais outlier (inicia-se o teste com p(0,05), aumentando de 0,05 em 0,05 até não

> ter mais outliers).

. graph box wsrLegCPCSUMpeso

. histogram wsrLegCPCSUMpeso, norm

(bin=17, start=78.828926, width=1.3937791)

. kdensity wsrLegCPCSUMpeso, norm

. \*\* a tecnica de winsorização não apresentou melhoras significativa

.

. \*\*\*\*\*\*\*\*RevCPC\*\*\*\*\*\*\*\*

. // variável binária não faz sentido ( podemos chamar de variaveis de controle )

.

. \*\*\*\*\*\*\*\*TAM\*\*\*\*\*\*\*\*

. histogram TAM, norm

(bin=17, start=804536, width=52901792)

. kdensity TAM, norm

. \*1)Tratando a normalidade da variável end

. ladder TAM //traz as diversas alternativas para transformação da variável --> pega a de menor qui2

Transformation formula chi2(2) P(chi2)

------------------------------------------------------------------

cubic TAM^3 . 0.000

square TAM^2 . 0.000

identity TAM . 0.000

square root sqrt(TAM) . 0.000

log log(TAM) 11.59 0.003

1/(square root) 1/sqrt(TAM) . 0.000

inverse 1/TAM . 0.000

1/square 1/(TAM^2) . 0.000

1/cubic 1/(TAM^3) . 0.000

. gladder TAM //demonstra em gráficos qual seria a melhor maneira de corrigir a normalidade dos dados -->transformar log

. gen lTAM = log(TAM)

. histogram lTAM, norm

(bin=17, start=13.598021, width=.41294322)

.

. \*2)winsorização (técnica para tratar os outliers).

. graph box lTAM //muitos outliers \*Comentário teórico: O boxplot mostra os outliers.

. winsor lTAM, gen(wlTAM) p(0.05) //não tem mais outlier (inicia-se o teste com p(0,05), aumentando de 0,05 em 0,05 até não ter mais outliers).

. graph box wlTAM

. histogram wlTAM, norm

(bin=17, start=15.025876, width=.23192849)

. kdensity wlTAM, norm

.

. \*\*\*\*\*\*\*\*COMPLEX\*\*\*\*\*\*\*\*

. histogram COMPLEX, norm

(bin=17, start=1, width=.35294118)

. kdensity COMPLEX, norm

. \*1)Tratando a normalidade da variável end

. ladder COMPLEX //traz as diversas alternativas para transformação da variável --> pega a de menor qui2

Transformation formula chi2(2) P(chi2)

------------------------------------------------------------------

cubic COMPLEX^3 69.58 0.000

square COMPLEX^2 20.60 0.000

identity COMPLEX 28.25 0.000

square root sqrt(COMPLEX) 31.03 0.000

log log(COMPLEX) 28.85 0.000

1/(square root) 1/sqrt(COMPLEX) 38.40 0.000

inverse 1/COMPLEX 50.28 0.000

1/square 1/(COMPLEX^2) 65.35 0.000

1/cubic 1/(COMPLEX^3) 70.70 0.000

. gladder COMPLEX //demonstra em gráficos qual seria a melhor maneira de corrigir a normalidade dos dados -->transformar COMPLEX^2

. gen sCOMPLEX = COMPLEX^2

. histogram sCOMPLEX, norm

(bin=17, start=1, width=2.8235294)

.

.

.

.

. \*\*\*\*\*\*\*\*CAPIT\*\*\*\*\*\*\*\*

. histogram CAPIT, norm

(bin=17, start=0, width=1.8235294)

. kdensity CAPIT, norm

. \*1)Tratando a normalidade da variável end

. ladder CAPIT //traz as diversas alternativas para transformação da variável --> pega a de menor qui2

Transformation formula chi2(2) P(chi2)

------------------------------------------------------------------

cubic CAPIT^3 . 0.000

square CAPIT^2 . .

identity CAPIT . .

square root sqrt(CAPIT) 30.29 0.000

log log(CAPIT) . .

1/(square root) 1/sqrt(CAPIT) . .

inverse 1/CAPIT . .

1/square 1/(CAPIT^2) . .

1/cubic 1/(CAPIT^3) . .

. gladder CAPIT //demonstra em gráficos qual seria a melhor maneira de corrigir a normalidade dos dados -->transformar sqrt(CAPIT)

. gen sqCAPIT = sqrt(CAPIT)

. histogram sqCAPIT, norm

(bin=17, start=0, width=.32751555)

.

. \*2)winsorização (técnica para tratar os outliers).

. graph box sqCAPIT //muitos outliers \*Comentário teórico: O boxplot mostra os outliers.

. winsor sqCAPIT, gen(wsqCAPIT) p(0.05) //não tem mais outlier (inicia-se o teste com p(0,05), aumentando de 0,05 em 0,05 até não ter mais outlier

> s).

. graph box wsqCAPIT

. histogram wsqCAPIT, norm

(bin=17, start=2.236068, width=.19598213)

. kdensity wsqCAPIT, norm

.

. \*\*\*\*\*\*\*\*EXT\*\*\*\*\*\*\*\*

. histogram EXT, norm

(bin=17, start=20, width=12.411765)

. kdensity EXT, norm

. \*1)Tratando a normalidade da variável end

. ladder EXT //traz as diversas alternativas para transformação da variável --> pega a de menor qui2

Transformation formula chi2(2) P(chi2)

------------------------------------------------------------------

cubic EXT^3 . 0.000

square EXT^2 . 0.000

identity EXT 42.96 0.000

square root sqrt(EXT) 4.57 0.102

log log(EXT) 24.72 0.000

1/(square root) 1/sqrt(EXT) . 0.000

inverse 1/EXT . 0.000

1/square 1/(EXT^2) . 0.000

1/cubic 1/(EXT^3) . 0.000

. gladder EXT //demonstra em gráficos qual seria a melhor maneira de corrigir a normalidade dos dados -->transformar sqrt(sqrt(EXT))

. gen sqEXT = sqrt(EXT)

. histogram sqEXT, norm

(bin=17, start=4.472136, width=.6309734)

.

. \*2)winsorização (técnica para tratar os outliers).

. graph box sqEXT //muitos outliers \*Comentário teórico: O boxplot mostra os outliers.

. winsor sqEXT, gen(WsqEXT) p(0.05) //não tem mais outlier (inicia-se o teste com p(0,05), aumentando de 0,05 em 0,05 até não ter mais outliers).

. graph box WsqEXT

. histogram WsqEXT, norm

(bin=17, start=5.8309517, width=.35052204)

. kdensity WsqEXT, norm

.

.

. tabstat LegNEsumpeso LegCPCSUMpeso srLegCPCSUMpeso RevCPC TAM wlTAM COMPLEX sCOMPLEX CAPIT wsqCAPIT GC AUDIT EXT ADR, s(count min max mean sd cv

> sk p1 p5 p10 p25 p50 p75 p90 p95 p99)

stats | LegNEs~o LegCP~so srLegC~o RevCPC TAM wlTAM COMPLEX sCOMPLEX CAPIT wsqCAPIT GC AUDIT EXT

---------+----------------------------------------------------------------------------------------------------------------------------------

N | 320 320 320 320 320 320 320 320 320 320 320 320 320

min | 1947 4152 64.43601 0 804536 15.02588 1 1 0 2.236068 0 0 20

max | 7535 11856 108.8853 1 9.00e+08 18.96866 7 49 31 5.567764 1 1 231

mean | 4801.372 8011.491 89.18397 .375 5.29e+07 16.82536 3.44375 14.34375 18.625 4.175016 .54375 .9375 86.32813

sd | 1034.968 1364.369 7.608632 .4848811 1.22e+08 1.082483 1.578646 11.02977 9.180018 1.13253 .4988623 .2424406 35.54381

cv | .2155568 .1703015 .0853139 1.293016 2.3084 .0643364 .4584091 .7689598 .4928869 .2712635 .917448 .2586033 .4117292

skewness | .046619 .3366905 .0814099 .5163978 4.954248 .1284867 -.0640752 .7382355 -.1993005 -.3599933 -.1756738 -3.614784 .9324232

p1 | 2189 5037 70.97182 0 1094786 15.02588 1 1 3 2.236068 0 0 22

p5 | 3160 6214 78.82893 0 3347449 15.02588 1 1 5 2.236068 0 0 33.5

p10 | 3576 6519.5 80.74312 0 4064226 15.21773 1 1 6 2.44949 0 1 44.5

p25 | 4139 7014 83.74963 0 9157363 16.03007 2 4 10 3.162278 0 1 63

p50 | 4755.5 7867.5 88.69886 0 2.07e+07 16.84709 4 16 19.5 4.415518 1 1 83

p75 | 5456.5 8937 94.53556 1 4.29e+07 17.5748 5 25 27 5.196152 1 1 107.5

p90 | 6133 9722.5 98.60273 1 8.53e+07 18.26208 5 25 30 5.477226 1 1 124

p95 | 6567.5 10511 102.5232 1 1.94e+08 18.96866 6 36 31 5.567764 1 1 144

p99 | 7322 11286 106.2356 1 7.93e+08 18.96866 7 49 31 5.567764 1 1 211

--------------------------------------------------------------------------------------------------------------------------------------------

stats | ADR

---------+----------

N | 320

min | 0

max | 1

mean | .375

sd | .4848811

cv | 1.293016

skewness | .5163978

p1 | 0

p5 | 0

p10 | 0

p25 | 0

p50 | 0

p75 | 1

p90 | 1

p95 | 1

p99 | 1

--------------------

. \*Comentário: comando significativo para comparação de diversos resultados estatísticos. Percebe-se uma melhora em todas as variáveis para o coef

> iciente de assimetria (de Pearson).

.

. summ LegNEsumpeso LegCPCSUMpeso srLegCPCSUMpeso RevCPC TAM wlTAM COMPLEX sCOMPLEX CAPIT wsqCAPIT GC AUDIT EXT ADR

Variable | Obs Mean Std. Dev. Min Max

-------------+--------------------------------------------------------

LegNEsumpeso | 320 4801.372 1034.968 1947 7535

LegCPCSUMp~o | 320 8011.491 1364.369 4152 11856

srLegCPCSU~o | 320 89.18397 7.608632 64.43601 108.8853

RevCPC | 320 .375 .4848811 0 1

TAM | 320 5.29e+07 1.22e+08 804536 9.00e+08

-------------+--------------------------------------------------------

wlTAM | 320 16.82536 1.082483 15.02588 18.96866

COMPLEX | 320 3.44375 1.578646 1 7

sCOMPLEX | 320 14.34375 11.02977 1 49

CAPIT | 320 18.625 9.180018 0 31

wsqCAPIT | 320 4.175016 1.13253 2.236068 5.567764

-------------+--------------------------------------------------------

GC | 320 .54375 .4988623 0 1

AUDIT | 320 .9375 .2424406 0 1

EXT | 320 86.32813 35.54381 20 231

ADR | 320 .375 .4848811 0 1

. \* Comentário teórico: tabelas com descrições estatísticas para países e setores

.

. \*\*\*\*\*\* Teste de Normalidade \*\*\*\*\*

. \*\* sem transformacao

. \*sfrancia LegNEsumpeso LegCPCSUMpeso lTAM COMPLEX CAPIT EXT

.

. sfrancia LegNEsumpeso srLegCPCSUMpeso wlTAM sCOMPLEX wsqCAPIT WsqEXT

Shapiro-Francia W' test for normal data

Variable | Obs W' V' z Prob>z

-------------+--------------------------------------------------

LegNEsumpeso | 320 0.99624 0.917 -0.184 0.57306

srLegCPCSU~o | 320 0.98685 3.209 2.485 0.00647

wlTAM | 320 0.98781 2.976 2.325 0.01004

sCOMPLEX | 320 0.97005 7.312 4.241 0.00001

wsqCAPIT | 320 0.91304 21.230 6.513 0.00001

WsqEXT | 320 0.99013 2.408 1.874 0.03050

.

. \* Comentário teórico: teste para a detecção de normalidade Shapiro-wilk para grandes amostras

. \* Foi retirado as variáveis binárias

.

. \*swilk LegNEsumpeso LegCPCSUMpeso lTAM COMPLEX CAPIT EXT

.

. swilk LegNEsumpeso srLegCPCSUMpeso wlTAM sCOMPLEX wsqCAPIT WsqEXT

Shapiro-Wilk W test for normal data

Variable | Obs W V z Prob>z

-------------+--------------------------------------------------

LegNEsumpeso | 320 0.99544 1.029 0.068 0.47289

srLegCPCSU~o | 320 0.98671 2.998 2.585 0.00487

wlTAM | 320 0.98707 2.918 2.521 0.00585

sCOMPLEX | 320 0.95646 9.823 5.380 0.00000

wsqCAPIT | 320 0.91126 20.020 7.056 0.00000

WsqEXT | 320 0.98946 2.377 2.039 0.02073

. \* Comentário teórico: teste para a detecção de normalidade Shapiro-wilk

. \* Foi retirado as variáveis binárias

.

.

. \*\*\* https://www.researchgate.net/publication/314032599\_TO\_DETERMINE\_SKEWNESS\_MEAN\_AND\_DEVIATION\_WITH\_A\_NEW\_APPROACH\_ON\_CONTINUOUS\_DATA

.

. sktest LegNEsumpeso srLegCPCSUMpeso wlTAM sCOMPLEX wsqCAPIT WsqEXT, noadjust

Skewness/Kurtosis tests for Normality

------- joint ------

Variable | Obs Pr(Skewness) Pr(Kurtosis) chi2(2) Prob>chi2

-------------+---------------------------------------------------------------

LegNEsumpeso | 320 0.7280 0.5658 0.45 0.7982

srLegCPCSU~o | 320 0.5440 0.6559 0.57 0.7532

wlTAM | 320 0.3393 0.0003 13.93 0.0009

sCOMPLEX | 320 0.0000 0.6797 24.95 0.0000

wsqCAPIT | 320 0.0090 0.0000 1012.38 0.0000

WsqEXT | 320 0.1031 0.0000 22.63 0.0000

. \* Comentário teórico: teste de assimetria e curtose

. \* Comentário teórico: Pelos valores dos dois testes pode-se verificar que os termos de erro não apresenlnrl distribuição normal ao nível de sign

> ificância de 5%, podendo rejeitar a hipótese nula de que os dados possuem distribuição normal.

.

. pwcorr LegNEsumpeso srLegCPCSUMpeso RevCPC wlTAM sCOMPLEX wsqCAPIT GC AUDIT WsqEXT ADR, star(0.05) //verifica a correlação (força da associação

> entre as variáveis) e ajuda a verificar se há problemas de multicolinearidade (altas correlações)

| LegNEs~o srLegC~o RevCPC wlTAM sCOMPLEX wsqCAPIT GC

-------------+---------------------------------------------------------------

LegNEsumpeso | 1.0000

srLegCPCSU~o | 0.7600\* 1.0000

RevCPC | -0.0218 -0.0150 1.0000

wlTAM | 0.3541\* 0.4332\* 0.0495 1.0000

sCOMPLEX | 0.0503 0.0914 0.0116 0.3800\* 1.0000

wsqCAPIT | 0.3410\* 0.3855\* 0.0430 0.6439\* 0.1838\* 1.0000

GC | -0.0908 -0.1630\* 0.0097 -0.4765\* -0.1292\* -0.4608\* 1.0000

AUDIT | -0.0190 0.1219\* -0.0667 -0.1245\* 0.2156\* 0.0362 0.0486

WsqEXT | 0.2872\* 0.4126\* -0.0127 0.4142\* 0.3897\* 0.1120\* -0.2729\*

ADR | 0.2384\* 0.3056\* 0.0000 0.6552\* 0.3902\* 0.5043\* -0.2236\*

| AUDIT WsqEXT ADR

-------------+---------------------------

AUDIT | 1.0000

WsqEXT | 0.1911\* 1.0000

ADR | 0.0400 0.3964\* 1.0000

.

. qui reg LegNEsumpeso srLegCPCSUMpeso RevCPC wlTAM sCOMPLEX wsqCAPIT GC AUDIT WsqEXT ADR

. vif

Variable | VIF 1/VIF

-------------+----------------------

wlTAM | 3.26 0.306770

wsqCAPIT | 2.31 0.432938

ADR | 2.04 0.490379

WsqEXT | 1.80 0.554083

srLegCPCSU~o | 1.54 0.647328

GC | 1.53 0.654262

sCOMPLEX | 1.44 0.693315

AUDIT | 1.25 0.797295

RevCPC | 1.01 0.987471

-------------+----------------------

Mean VIF | 1.80

. \*Comentário teórico: Cada variável não pode apresentar um valor de VIF individualmente maior que 10 e o VIF médio do modelo lnrlbém não pode ser

> maior que 10 (HAIR JR. ET AL, 2009). A variável que está causando o problema deve ser retirada do modelo de regressão.

. \*Comentário do resultado: Neste caso não há problemas de multicolinearidade entre as variáveis. Portanto nenhuma das variáveis deve retirada do

> modelo.

.

. \*\*\*\*\*\*\*\*\*\*TESTE PARA VERIFICAR SE EXISTE PROBLEMA DE AUTOCORRELAÇÃO: H0: não há autocorrelação; H1: há autocorrelação\*\*\*\*\*\*\*\*\*\*\*

. \*\*\*TESTE PARA VERIFICAR SE EXISTE PROBLEMA DE HETEROCEDASTICIDADE: H0: não há heterocedasticidade; H1: há heterocedasticidade\*\*\*

. \*findit xtserial //este comando irá instalar o teste de woodridge de autocorrelação. Em seguida clicar em "st0039" e depois "click here to insta

> ll"

. xtserial LegNEsumpeso srLegCPCSUMpeso RevCPC wlTAM sCOMPLEX wsqCAPIT GC AUDIT WsqEXT ADR, output //roda o teste de woodridge de autocorrelação.

Linear regression Number of obs = 280

F( 8, 39) = 24.88

Prob > F = 0.0000

R-squared = 0.3653

Root MSE = 450

(Std. Err. adjusted for 40 clusters in idempresa)

---------------------------------------------------------------------------------

| Robust

D.LegNEsumpeso | Coef. Std. Err. t P>|t| [95% Conf. Interval]

----------------+----------------------------------------------------------------

srLegCPCSUMpeso |

D1. | 122.3891 13.91323 8.80 0.000 94.24695 150.5313

|

RevCPC |

D1. | -11.65044 64.10407 -0.18 0.857 -141.3132 118.0123

|

wlTAM |

D1. | -117.7666 171.5587 -0.69 0.496 -464.7768 229.2436

|

sCOMPLEX |

D1. | 6.348048 4.442666 1.43 0.161 -2.638092 15.33419

|

wsqCAPIT |

D1. | 137.7447 171.4199 0.80 0.427 -208.9848 484.4741

|

GC |

D1. | 7.557097 123.1408 0.06 0.951 -241.5187 256.6329

|

AUDIT |

D1. | 71.96073 60.52605 1.19 0.242 -50.46476 194.3862

|

WsqEXT |

D1. | -61.36509 51.37496 -1.19 0.240 -165.2807 42.55057

|

ADR |

D1. | 0 (omitted)

---------------------------------------------------------------------------------

Wooldridge test for autocorrelation in panel data

H0: no first-order autocorrelation

F( 1, 39) = 14.785

Prob > F = 0.0004

.

. findit xttest3

. qui xtreg LegNEsumpeso srLegCPCSUMpeso RevCPC wlTAM sCOMPLEX wsqCAPIT GC AUDIT WsqEXT ADR,fe

. xttest3 //roda o teste de wald para detecção de heterocedasticidade.

Modified Wald test for groupwise heteroskedasticity

in fixed effect regression model

H0: sigma(i)^2 = sigma^2 for all i

chi2 (40) = 1626.26

Prob>chi2 = 0.0000

. \*Comentários: As hipóteses H0 de ausência de autocorrelação e ausência de heterocedasticidade foram rejeitadas a um nível de significância de 5%

> . Portanto temos problema de autocorrelação e heterocedasticidade. Neste caso recomenda-se rodar o modelo utilizando o método robust ou bootstra

> p.

.

. \*\*\*\*\*\*\*\*\*\*\*\*\*\*\*\*\*\*\*\*\*\*\*\*\*\*\*\*\*\*\*\*\*\*\*\*\*\*\*\*\*\*\*\*\*\*\*\*\*\*\*\*\*\*\*\*\*\*\*\*\*\*\*\*\*\*\*\*\*\*\*\*\*\*\*\*\*\*\*\*\*\*\*\*\*\*\*\*\*\*\*\*\*\*\*\*\*\*\*\*\*\*\*\*\*\*

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. \*\*\*\*\*\*\*\*\*\*\*\*\*\*\*\*\*\*\*\*\*\*\*\*\*\*\*\*\*\*\*\*\* MODELOS DADOS EM PAINEL \*\*\*\*\*\*\*\*\*\*\*\*\*\*\*\*\*\*\*\*\*\*\*\*\*\*\*\*\*\*\*\*\*\*\*\*\*\*\*\*\*\*\*\*\*\*\*\*

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. \*\*\*\*\*\*\*\*TESTES PARA ESCOLHA ENTRE MODELOS DE REGRESSÃO POOL, EFEITO FIXO OU EFEITO ALEATÓRIO \*\*\*\*\*\*\*\*\*\*\*\*\*

. \*\*\*\*\*\*\*\*\*\*\*\*\*\*\*\*\*\*\*\*\*\*\*\*\*\*\*\*\*\*\*\*\*\*\*\*\*\*\*\*\*\*\*\*\*\*\*\*\*\*\*\*\*\*\*\*\*\*\*\*\*\*\*\*\*\*\*\*\*\*\*\*\*\*\*\*\*\*\*\*\*\*\*\*\*\*\*\*\*\*\*\*\*\*\*\*\*\*\*\*\*\*\*\*\*\*

.

. \*\*\*\*\*\*\*\*TESTE DE BREUSCH-PAGAN: POOL X EFEITO ALEATÓRIO; H0: POOL, H1: EFEITO ALEATÓRIO \*\*\*\*\*\*\*\*\*\*\*\*\*\*\*\*\*\*\*

. qui xtreg LegNEsumpeso srLegCPCSUMpeso RevCPC wlTAM sCOMPLEX wsqCAPIT GC AUDIT WsqEXT ADR, re

. xttest0

Breusch and Pagan Lagrangian multiplier test for random effects

LegNEsumpeso[idempresa,t] = Xb + u[idempresa] + e[idempresa,t]

Estimated results:

| Var sd = sqrt(Var)

---------+-----------------------------

LegNEsu~o | 1071159 1034.968

e | 158730.6 398.4101

u | 336886.8 580.4195

Test: Var(u) = 0

chibar2(01) = 416.21

Prob > chibar2 = 0.0000

. \*Comentário: Rejeitou-se a menos de 1% a hipótese H0: Pooled. Portanto, o modelo estimado por efeitos aleatórios mostrou-se mais adequado que qu

> e o modelo pooled.

.

. \*\*\*\*\*\*\*\*TESTE DE CHOW: POOLED X EFEITO FIXO; H0: POOLED, H1: EFEITO FIXO \*\*\*\*\*\*\*\*\*\*\*\*\*\*\*\*\*\*\*\*\*\*\*\*\*\*\*\*\*\*\*\*\*\*\*

. xtreg LegNEsumpeso srLegCPCSUMpeso RevCPC wlTAM sCOMPLEX wsqCAPIT GC AUDIT WsqEXT ADR, fe

note: ADR omitted because of collinearity

Fixed-effects (within) regression Number of obs = 320

Group variable: idempresa Number of groups = 40

R-sq: within = 0.4926 Obs per group: min = 8

between = 0.6049 avg = 8.0

overall = 0.5721 max = 8

F(8,272) = 33.01

corr(u\_i, Xb) = -0.2967 Prob > F = 0.0000

---------------------------------------------------------------------------------

LegNEsumpeso | Coef. Std. Err. t P>|t| [95% Conf. Interval]

----------------+----------------------------------------------------------------

srLegCPCSUMpeso | 124.0993 8.464838 14.66 0.000 107.4344 140.7642

RevCPC | -23.92242 47.50207 -0.50 0.615 -117.4409 69.59603

wlTAM | 4.216793 116.6991 0.04 0.971 -225.5315 233.9651

sCOMPLEX | 1.874315 5.346622 0.35 0.726 -8.651707 12.40034

wsqCAPIT | 58.54554 118.4078 0.49 0.621 -174.5668 291.6578

GC | -119.8224 196.7932 -0.61 0.543 -507.2538 267.609

AUDIT | 31.56916 175.6856 0.18 0.858 -314.3072 377.4456

WsqEXT | -48.4269 34.164 -1.42 0.157 -115.6864 18.83258

ADR | 0 (omitted)

\_cons | -6125.481 1800.948 -3.40 0.001 -9671.051 -2579.912

----------------+----------------------------------------------------------------

sigma\_u | 601.7682

sigma\_e | 398.41007

rho | .69525027 (fraction of variance due to u\_i)

---------------------------------------------------------------------------------

F test that all u\_i=0: F(39, 272) = 15.17 Prob > F = 0.0000

. \*Comentário teórico: Olha-se o valor de Prob > F = 0.05 na regressão. Se 0 < Prob F < 0.05, rejeita-se H0, ou seja o modelo de Efeito Fixo é mel

> hor. Caso contrário não rejeita-se H1, ou seja Pooled é melhor.

. \*Comentário do resultado: Neste caso o modelo de efeito fixo mostrou-se mais adequado que o modelo pooled.

. \* Após Teste de Breusch-Pagan e Chow, descarta-se o modelo pooled.

.

. \*\*\*\*\*\*\*\*TESTE DE HAUSMAN: POOLED X EFEITO FIXO X EFEITO ALEATÓRIO; H0: EFEITO ALEATÓRIO, H1: EFEITO FIXO \*\*\*\*\*\*\*\*\*\*\*

. qui xtreg LegNEsumpeso srLegCPCSUMpeso RevCPC wlTAM sCOMPLEX wsqCAPIT GC AUDIT WsqEXT ADR, fe

. estimates store fe

. qui xtreg LegNEsumpeso srLegCPCSUMpeso RevCPC wlTAM sCOMPLEX wsqCAPIT GC AUDIT WsqEXT ADR, re

. estimates store re

.

. hausman fe re, sigmamore

Note: the rank of the differenced variance matrix (7) does not equal the number of coefficients being tested (8); be sure this is what you expect,

or there may be problems computing the test. Examine the output of your estimators for anything unexpected and possibly consider scaling

your variables so that the coefficients are on a similar scale.

---- Coefficients ----

| (b) (B) (b-B) sqrt(diag(V\_b-V\_B))

| fe re Difference S.E.

-------------+----------------------------------------------------------------

srLegCPCSU~o | 124.0993 118.5841 5.515265 4.045391

RevCPC | -23.92242 -27.75729 3.834865 5.609404

wlTAM | 4.216793 -5.931209 10.148 78.09731

sCOMPLEX | 1.874315 1.516461 .357854 2.380614

wsqCAPIT | 58.54554 55.58434 2.961201 82.61576

GC | -119.8224 9.926019 -129.7485 137.0615

AUDIT | 31.56916 -58.39785 89.96701 61.60201

WsqEXT | -48.4269 -42.56663 -5.860276 12.45504

------------------------------------------------------------------------------

b = consistent under Ho and Ha; obtained from xtreg

B = inconsistent under Ha, efficient under Ho; obtained from xtreg

Test: Ho: difference in coefficients not systematic

chi2(7) = (b-B)'[(V\_b-V\_B)^(-1)](b-B)

= 6.17

Prob>chi2 = 0.5205

. hausman fe re, sigmaless

Note: the rank of the differenced variance matrix (7) does not equal the number of coefficients being tested (8); be sure this is what you expect,

or there may be problems computing the test. Examine the output of your estimators for anything unexpected and possibly consider scaling

your variables so that the coefficients are on a similar scale.

---- Coefficients ----

| (b) (B) (b-B) sqrt(diag(V\_b-V\_B))

| fe re Difference S.E.

-------------+----------------------------------------------------------------

srLegCPCSU~o | 124.0993 118.5841 5.515265 4.050953

RevCPC | -23.92242 -27.75729 3.834865 5.617117

wlTAM | 4.216793 -5.931209 10.148 78.20469

sCOMPLEX | 1.874315 1.516461 .357854 2.383887

wsqCAPIT | 58.54554 55.58434 2.961201 82.72935

GC | -119.8224 9.926019 -129.7485 137.25

AUDIT | 31.56916 -58.39785 89.96701 61.68671

WsqEXT | -48.4269 -42.56663 -5.860276 12.47217

------------------------------------------------------------------------------

b = consistent under Ho and Ha; obtained from xtreg

B = inconsistent under Ha, efficient under Ho; obtained from xtreg

Test: Ho: difference in coefficients not systematic

chi2(7) = (b-B)'[(V\_b-V\_B)^(-1)](b-B)

= 6.15

Prob>chi2 = 0.5224

. \*Comentário: com as opções acima descritas para o teste de hausman ocorre a correção para chi2<0 (hausman negativo).

. \*Assim, tem-se a escolha pelo Efeito ALEATÓRIO (H0: EFEITO ALEATÓRIO, H1: EFEITO FIXO)

.

. \*\*\*\*\*\*\*\*\*\*\*\*\*\*\*\*\*\*\*\*\*\*\*\*\*\*\*\*\*\*\*\*\*\*\*\*\*\*\* MODELOS DE REGRESSÃO \*\*\*\*\*\*\*\*\*\*\*\*\*\*\*\*\*\*\*\*\*\*\*\*\*\*\*\*\*\*\*\*\*\*\*\*\*\*\*\*\*\*\*\*\*\*\*\*

. xtreg LegNEsumpeso srLegCPCSUMpeso RevCPC wlTAM sCOMPLEX wsqCAPIT GC AUDIT WsqEXT ADR, fe vce(robust)

note: ADR omitted because of collinearity

Fixed-effects (within) regression Number of obs = 320

Group variable: idempresa Number of groups = 40

R-sq: within = 0.4926 Obs per group: min = 8

between = 0.6049 avg = 8.0

overall = 0.5721 max = 8

F(8,39) = 23.75

corr(u\_i, Xb) = -0.2967 Prob > F = 0.0000

(Std. Err. adjusted for 40 clusters in idempresa)

---------------------------------------------------------------------------------

| Robust

LegNEsumpeso | Coef. Std. Err. t P>|t| [95% Conf. Interval]

----------------+----------------------------------------------------------------

srLegCPCSUMpeso | 124.0993 12.35132 10.05 0.000 99.11641 149.0822

RevCPC | -23.92242 64.85698 -0.37 0.714 -155.1081 107.2632

wlTAM | 4.216793 170.7604 0.02 0.980 -341.1788 349.6124

sCOMPLEX | 1.874315 4.505852 0.42 0.680 -7.239632 10.98826

wsqCAPIT | 58.54554 159.871 0.37 0.716 -264.8242 381.9152

GC | -119.8224 140.3526 -0.85 0.398 -403.7124 164.0675

AUDIT | 31.56916 151.8391 0.21 0.836 -275.5544 338.6927

WsqEXT | -48.4269 41.16149 -1.18 0.247 -131.6839 34.83007

ADR | 0 (omitted)

\_cons | -6125.481 2886.473 -2.12 0.040 -11963.92 -287.0387

----------------+----------------------------------------------------------------

sigma\_u | 601.7682

sigma\_e | 398.41007

rho | .69525027 (fraction of variance due to u\_i)

---------------------------------------------------------------------------------

.

. xtreg LegNEsumpeso srLegCPCSUMpeso RevCPC wlTAM sCOMPLEX wsqCAPIT GC AUDIT WsqEXT ADR, re vce(robust)

Random-effects GLS regression Number of obs = 320

Group variable: idempresa Number of groups = 40

R-sq: within = 0.4912 Obs per group: min = 8

between = 0.6162 avg = 8.0

overall = 0.5819 max = 8

Wald chi2(9) = 264.41

corr(u\_i, X) = 0 (assumed) Prob > chi2 = 0.0000

(Std. Err. adjusted for 40 clusters in idempresa)

---------------------------------------------------------------------------------

| Robust

LegNEsumpeso | Coef. Std. Err. z P>|z| [95% Conf. Interval]

----------------+----------------------------------------------------------------

srLegCPCSUMpeso | 118.5841 8.922452 13.29 0.000 101.0964 136.0717

RevCPC | -27.75729 64.84287 -0.43 0.669 -154.847 99.33241

wlTAM | -5.931209 101.2535 -0.06 0.953 -204.3844 192.522

sCOMPLEX | 1.516461 4.670798 0.32 0.745 -7.638135 10.67106

wsqCAPIT | 55.58434 90.23625 0.62 0.538 -121.2755 232.4441

GC | 9.926019 130.0865 0.08 0.939 -245.0389 264.8909

AUDIT | -58.39785 171.6884 -0.34 0.734 -394.901 278.1053

WsqEXT | -42.56663 36.92198 -1.15 0.249 -114.9324 29.79913

ADR | -69.89117 231.7689 -0.30 0.763 -524.1499 384.3676

\_cons | -5456.998 1746.732 -3.12 0.002 -8880.53 -2033.465

----------------+----------------------------------------------------------------

sigma\_u | 580.41946

sigma\_e | 398.41007

rho | .67973157 (fraction of variance due to u\_i)

---------------------------------------------------------------------------------

.

.

.

end of do-file

. do "C:\Users\Regis\AppData\Local\Temp\STD01000000.tmp"

.

. histogram LegCPCMedio, norm

(bin=17, start=43.307692, width=.3505279)

.

end of do-file

. do "C:\Users\Regis\AppData\Local\Temp\STD01000000.tmp"

. kdensity LegCPCMedio, norm

.

end of do-file

. do "C:\Users\Regis\AppData\Local\Temp\STD01000000.tmp"

. ladder LegCPCMedio //traz as diversas alternativas para transformação da variável --> pega a de menor qui2

Transformation formula chi2(2) P(chi2)

------------------------------------------------------------------

cubic LegCP~io^3 8.82 0.012

square LegCP~io^2 6.53 0.038

identity LegCP~io 4.52 0.105

square root sqrt(LegCP~io) 3.63 0.163

log log(LegCP~io) 2.89 0.235

1/(square root) 1/sqrt(LegCP~io) 2.29 0.318

inverse 1/LegCP~io 1.82 0.402

1/square 1/(LegCP~io^2) 1.25 0.536

1/cubic 1/(LegCP~io^3) 1.11 0.574

.

end of do-file

. do "C:\Users\Regis\AppData\Local\Temp\STD01000000.tmp"

. gen cLegCPCMedio = 1/(LegCPCMedio^3)

. histogram cLegCPCMedio, norm

(bin=17, start=8.363e-06, width=2.323e-07)

. kdensity cLegCPCMedio, norm

.

end of do-file

. do "C:\Users\Regis\AppData\Local\Temp\STD01000000.tmp"

. graph box cLegCPCMedio //muitos outliers \*Comentário teórico: O boxplot mostra os outliers.

.

end of do-file

. do "C:\Users\Regis\AppData\Local\Temp\STD01000000.tmp"

. \*\*\*\*\*\*\*\*TAM\*\*\*\*\*\*\*\*

. histogram TAM, norm

(bin=17, start=804536, width=52901792)

. kdensity TAM, norm

. \*1)Tratando a normalidade da variável end

. ladder TAM //traz as diversas alternativas para transformação da variável --> pega a de menor qui2

Transformation formula chi2(2) P(chi2)

------------------------------------------------------------------

cubic TAM^3 . 0.000

square TAM^2 . 0.000

identity TAM . 0.000

square root sqrt(TAM) . 0.000

log log(TAM) 11.59 0.003

1/(square root) 1/sqrt(TAM) . 0.000

inverse 1/TAM . 0.000

1/square 1/(TAM^2) . 0.000

1/cubic 1/(TAM^3) . 0.000

. gladder TAM //demonstra em gráficos qual seria a melhor maneira de corrigir a normalidade dos dados -->transformar log

. gen lTAM = log(TAM)

lTAM already defined

r(110);

end of do-file

r(110);

. do "C:\Users\Regis\AppData\Local\Temp\STD01000000.tmp"

. histogram TAM, norm

(bin=17, start=804536, width=52901792)

.

end of do-file

. do "C:\Users\Regis\AppData\Local\Temp\STD01000000.tmp"

. kdensity TAM, norm

.

end of do-file

. do "C:\Users\Regis\AppData\Local\Temp\STD01000000.tmp"

. ladder TAM //traz as diversas alternativas para transformação da variável --> pega a de menor qui2

Transformation formula chi2(2) P(chi2)

------------------------------------------------------------------

cubic TAM^3 . 0.000

square TAM^2 . 0.000

identity TAM . 0.000

square root sqrt(TAM) . 0.000

log log(TAM) 11.59 0.003

1/(square root) 1/sqrt(TAM) . 0.000

inverse 1/TAM . 0.000

1/square 1/(TAM^2) . 0.000

1/cubic 1/(TAM^3) . 0.000

.

end of do-file

. do "C:\Users\Regis\AppData\Local\Temp\STD01000000.tmp"

. gladder TAM //demonstra em gráficos qual seria a melhor maneira de corrigir a normalidade dos dados -->transformar log

.

end of do-file

. do "C:\Users\Regis\AppData\Local\Temp\STD01000000.tmp"

. gen lTAM = log(TAM)

lTAM already defined

r(110);

end of do-file

r(110);

. do "C:\Users\Regis\AppData\Local\Temp\STD01000000.tmp"

. graph box lTAM //muitos outliers \*Comentário teórico: O boxplot mostra os outliers.

.

end of do-file

. do "C:\Users\Regis\AppData\Local\Temp\STD01000000.tmp"

. winsor lTAM, gen(wlTAM) p(0.05) //não tem mais outlier (inicia-se o teste com p(0,05), aumentando de 0,05 em 0,05 até não ter mais outliers).

generate() should give new variable name

r(110);

end of do-file

r(110);

. do "C:\Users\Regis\AppData\Local\Temp\STD01000000.tmp"

. graph box wlTAM

.

end of do-file

. do "C:\Users\Regis\AppData\Local\Temp\STD01000000.tmp"

. histogram wlTAM, norm

(bin=17, start=15.025876, width=.23192849)

.

end of do-file

. do "C:\Users\Regis\AppData\Local\Temp\STD01000000.tmp"

. histogram lTAM, norm

(bin=17, start=13.598021, width=.41294322)

.

end of do-file

. do "C:\Users\Regis\AppData\Local\Temp\STD01000000.tmp"

. histogram wlTAM, norm

(bin=17, start=15.025876, width=.23192849)

.

end of do-file

. do "C:\Users\Regis\AppData\Local\Temp\STD01000000.tmp"

. swilk lTAM wlTAM

Shapiro-Wilk W test for normal data

Variable | Obs W V z Prob>z

-------------+--------------------------------------------------

lTAM | 320 0.97904 4.729 3.658 0.00013

wlTAM | 320 0.98707 2.918 2.521 0.00585

.

end of do-file

. do "C:\Users\Regis\AppData\Local\Temp\STD01000000.tmp"

. sfrancia lTAM wlTAM

Shapiro-Francia W' test for normal data

Variable | Obs W' V' z Prob>z

-------------+--------------------------------------------------

lTAM | 320 0.97938 5.035 3.445 0.00029

wlTAM | 320 0.98781 2.976 2.325 0.01004

.

end of do-file

. do "C:\Users\Regis\AppData\Local\Temp\STD01000000.tmp"

. histogram COMPLEX, norm

(bin=17, start=1, width=.35294118)

.

end of do-file

. do "C:\Users\Regis\AppData\Local\Temp\STD01000000.tmp"

. kdensity COMPLEX, norm

.

end of do-file

. do "C:\Users\Regis\AppData\Local\Temp\STD01000000.tmp"

. ladder COMPLEX //traz as diversas alternativas para transformação da variável --> pega a de menor qui2

Transformation formula chi2(2) P(chi2)

------------------------------------------------------------------

cubic COMPLEX^3 69.58 0.000

square COMPLEX^2 20.60 0.000

identity COMPLEX 28.25 0.000

square root sqrt(COMPLEX) 31.03 0.000

log log(COMPLEX) 28.85 0.000

1/(square root) 1/sqrt(COMPLEX) 38.40 0.000

inverse 1/COMPLEX 50.28 0.000

1/square 1/(COMPLEX^2) 65.35 0.000

1/cubic 1/(COMPLEX^3) 70.70 0.000

.

end of do-file

. do "C:\Users\Regis\AppData\Local\Temp\STD01000000.tmp"

. gladder COMPLEX //demonstra em gráficos qual seria a melhor maneira de corrigir a normalidade dos dados -->transformar COMPLEX^2

.

end of do-file

. do "C:\Users\Regis\AppData\Local\Temp\STD01000000.tmp"

. gen sCOMPLEX = COMPLEX^2

sCOMPLEX already defined

r(110);

end of do-file

r(110);

. do "C:\Users\Regis\AppData\Local\Temp\STD01000000.tmp"

. histogram sCOMPLEX, norm

(bin=17, start=1, width=2.8235294)

.

end of do-file

. do "C:\Users\Regis\AppData\Local\Temp\STD01000000.tmp"

. graph box sCOMPLEX //muitos outliers \*Comentário teórico: O boxplot mostra os outliers.

.

end of do-file

. do "C:\Users\Regis\AppData\Local\Temp\STD01000000.tmp"

. winsor sCOMPLEX, gen(wsCOMPLEX) p(0.05) //não tem mais outlier (inicia-se o teste com p(0,05), aumentando de 0,05 em 0,05 até não ter mais outli

> ers).

.

end of do-file

. do "C:\Users\Regis\AppData\Local\Temp\STD01000000.tmp"

. graph box wsCOMPLEX

.

end of do-file

. do "C:\Users\Regis\AppData\Local\Temp\STD01000000.tmp"

. histogram wsCOMPLEX, norm

(bin=17, start=1, width=2.0588235)

.

end of do-file

. do "C:\Users\Regis\AppData\Local\Temp\STD01000000.tmp"

. kdensity wsCOMPLEX, norm

.

end of do-file

. do "C:\Users\Regis\AppData\Local\Temp\STD01000000.tmp"

. kdensity COMPLEX, norm

.

end of do-file

. do "C:\Users\Regis\AppData\Local\Temp\STD01000000.tmp"

. swilk COMPLEX sCOMPLEX wsCOMPLEX

Shapiro-Wilk W test for normal data

Variable | Obs W V z Prob>z

-------------+--------------------------------------------------

COMPLEX | 320 0.98182 4.101 3.323 0.00045

sCOMPLEX | 320 0.95646 9.823 5.380 0.00000

wsCOMPLEX | 320 0.97141 6.450 4.389 0.00001

.

end of do-file

. do "C:\Users\Regis\AppData\Local\Temp\STD01000000.tmp"

. sfrancia COMPLEX sCOMPLEX wsCOMPLEX

Shapiro-Francia W' test for normal data

Variable | Obs W' V' z Prob>z

-------------+--------------------------------------------------

COMPLEX | 320 0.99193 1.970 1.446 0.07416

sCOMPLEX | 320 0.97005 7.312 4.241 0.00001

wsCOMPLEX | 320 0.97380 6.396 3.955 0.00004

.

end of do-file

. do "C:\Users\Regis\AppData\Local\Temp\STD01000000.tmp"

. swilk lTAM wlTAM

Shapiro-Wilk W test for normal data

Variable | Obs W V z Prob>z

-------------+--------------------------------------------------

lTAM | 320 0.97904 4.729 3.658 0.00013

wlTAM | 320 0.98707 2.918 2.521 0.00585

. sfrancia lTAM wlTAM

Shapiro-Francia W' test for normal data

Variable | Obs W' V' z Prob>z

-------------+--------------------------------------------------

lTAM | 320 0.97938 5.035 3.445 0.00029

wlTAM | 320 0.98781 2.976 2.325 0.01004

.

end of do-file

. do "C:\Users\Regis\AppData\Local\Temp\STD01000000.tmp"

. histogram CAPIT, norm

(bin=17, start=0, width=1.8235294)

.

end of do-file

. do "C:\Users\Regis\AppData\Local\Temp\STD01000000.tmp"

. kdensity CAPIT, norm

.

end of do-file

. do "C:\Users\Regis\AppData\Local\Temp\STD01000000.tmp"

. ladder CAPIT //traz as diversas alternativas para transformação da variável --> pega a de menor qui2

Transformation formula chi2(2) P(chi2)

------------------------------------------------------------------

cubic CAPIT^3 . 0.000

square CAPIT^2 . .

identity CAPIT . .

square root sqrt(CAPIT) 30.29 0.000

log log(CAPIT) . .

1/(square root) 1/sqrt(CAPIT) . .

inverse 1/CAPIT . .

1/square 1/(CAPIT^2) . .

1/cubic 1/(CAPIT^3) . .

.

end of do-file

. do "C:\Users\Regis\AppData\Local\Temp\STD01000000.tmp"

. gladder CAPIT //demonstra em gráficos qual seria a melhor maneira de corrigir a normalidade dos dados -->transformar sqrt(CAPIT)

. gen sqCAPIT = sqrt(CAPIT)

sqCAPIT already defined

r(110);

end of do-file

r(110);

. do "C:\Users\Regis\AppData\Local\Temp\STD01000000.tmp"

. graph box sqCAPIT //muitos outliers \*Comentário teórico: O boxplot mostra os outliers.

. winsor sqCAPIT, gen(wsqCAPIT) p(0.05) //não tem mais outlier (inicia-se o teste com p(0,05), aumentando de 0,05 em 0,05 até não ter mais outlier

> s).

generate() should give new variable name

r(110);

end of do-file

r(110);

. do "C:\Users\Regis\AppData\Local\Temp\STD01000000.tmp"

. swilk CAPIT sqCAPIT wsqCAPIT

Shapiro-Wilk W test for normal data

Variable | Obs W V z Prob>z

-------------+--------------------------------------------------

CAPIT | 320 0.92069 17.894 6.792 0.00000

sqCAPIT | 320 0.91128 20.016 7.056 0.00000

wsqCAPIT | 320 0.91126 20.020 7.056 0.00000

. sfrancia CAPIT sqCAPIT wsqCAPIT

Shapiro-Francia W' test for normal data

Variable | Obs W' V' z Prob>z

-------------+--------------------------------------------------

CAPIT | 320 0.91845 19.909 6.376 0.00001

sqCAPIT | 320 0.91888 19.804 6.365 0.00001

wsqCAPIT | 320 0.91304 21.230 6.513 0.00001

.

end of do-file

. do "C:\Users\Regis\AppData\Local\Temp\STD01000000.tmp"

. histogram CAPIT, norm

(bin=17, start=0, width=1.8235294)

.

end of do-file

. do "C:\Users\Regis\AppData\Local\Temp\STD01000000.tmp"

. kdensity CAPIT, norm

.

end of do-file

. do "C:\Users\Regis\AppData\Local\Temp\STD01000000.tmp"

. histogram EXT, norm

(bin=17, start=20, width=12.411765)

.

end of do-file

. do "C:\Users\Regis\AppData\Local\Temp\STD01000000.tmp"

. kdensity EXT, norm

.

end of do-file

. do "C:\Users\Regis\AppData\Local\Temp\STD01000000.tmp"

. ladder EXT //traz as diversas alternativas para transformação da variável --> pega a de menor qui2

Transformation formula chi2(2) P(chi2)

------------------------------------------------------------------

cubic EXT^3 . 0.000

square EXT^2 . 0.000

identity EXT 42.96 0.000

square root sqrt(EXT) 4.57 0.102

log log(EXT) 24.72 0.000

1/(square root) 1/sqrt(EXT) . 0.000

inverse 1/EXT . 0.000

1/square 1/(EXT^2) . 0.000

1/cubic 1/(EXT^3) . 0.000

.

end of do-file

. do "C:\Users\Regis\AppData\Local\Temp\STD01000000.tmp"

. gladder EXT //demonstra em gráficos qual seria a melhor maneira de corrigir a normalidade dos dados -->transformar sqrt(sqrt(EXT))

. gen sqEXT = sqrt(EXT)

sqEXT already defined

r(110);

end of do-file

r(110);

. do "C:\Users\Regis\AppData\Local\Temp\STD01000000.tmp"

. graph box sqEXT //muitos outliers \*Comentário teórico: O boxplot mostra os outliers.

. winsor sqEXT, gen(WsqEXT) p(0.05) //não tem mais outlier (inicia-se o teste com p(0,05), aumentando de 0,05 em 0,05 até não ter mais outliers).

generate() should give new variable name

r(110);

end of do-file

r(110);

. do "C:\Users\Regis\AppData\Local\Temp\STD01000000.tmp"

. swilk EXT sqEXT WsqEXT

Shapiro-Wilk W test for normal data

Variable | Obs W V z Prob>z

-------------+--------------------------------------------------

EXT | 320 0.94938 11.421 5.735 0.00000

sqEXT | 320 0.98485 3.419 2.895 0.00190

WsqEXT | 320 0.98946 2.377 2.039 0.02073

.

end of do-file

. do "C:\Users\Regis\AppData\Local\Temp\STD01000000.tmp"

. sfrancia EXT sqEXT WsqEXT

Shapiro-Francia W' test for normal data

Variable | Obs W' V' z Prob>z

-------------+--------------------------------------------------

EXT | 320 0.94950 12.329 5.355 0.00001

sqEXT | 320 0.98534 3.580 2.719 0.00328

WsqEXT | 320 0.99013 2.408 1.874 0.03050

.

end of do-file

. do "C:\Users\Regis\AppData\Local\Temp\STD01000000.tmp"

.

. summ LegNEMedio cLegCPCMedio wlTAM COMPLEX CAPIT WsqEXT

Variable | Obs Mean Std. Dev. Min Max

-------------+--------------------------------------------------------

LegNEMedio | 320 28.75375 3.892152 15.75 38.53333

cLegCPCMedio | 320 .0000104 7.98e-07 8.36e-06 .0000123

wlTAM | 320 16.82536 1.082483 15.02588 18.96866

COMPLEX | 320 3.44375 1.578646 1 7

CAPIT | 320 18.625 9.180018 0 31

-------------+--------------------------------------------------------

WsqEXT | 320 9.055937 1.632161 5.830952 11.78983

.

end of do-file

. do "C:\Users\Regis\AppData\Local\Temp\STD01000000.tmp"

. summ LegNEMedio LegCPCMedio wlTAM COMPLEX CAPIT WsqEXT

Variable | Obs Mean Std. Dev. Min Max

-------------+--------------------------------------------------------

LegNEMedio | 320 28.75375 3.892152 15.75 38.53333

LegCPCMedio | 320 45.9012 1.187788 43.30769 49.26667

wlTAM | 320 16.82536 1.082483 15.02588 18.96866

COMPLEX | 320 3.44375 1.578646 1 7

CAPIT | 320 18.625 9.180018 0 31

-------------+--------------------------------------------------------

WsqEXT | 320 9.055937 1.632161 5.830952 11.78983

.

end of do-file

. do "C:\Users\Regis\AppData\Local\Temp\STD01000000.tmp"

.

. sfrancia LegNEMedio LegCPCMedio wlTAM COMPLEX CAPIT WsqEXT

Shapiro-Francia W' test for normal data

Variable | Obs W' V' z Prob>z

-------------+--------------------------------------------------

LegNEMedio | 320 0.99022 2.388 1.856 0.03175

LegCPCMedio | 320 0.99186 1.986 1.463 0.07178

wlTAM | 320 0.98781 2.976 2.325 0.01004

COMPLEX | 320 0.99193 1.970 1.446 0.07416

CAPIT | 320 0.91845 19.909 6.376 0.00001

WsqEXT | 320 0.99013 2.408 1.874 0.03050

.

. \* Comentário teórico: teste para a detecção de normalidade Shapiro-wilk para grandes amostras

. \* Foi retirado as variáveis binárias

.

. \*swilk LegNEsumpeso LegCPCSUMpeso lTAM COMPLEX CAPIT EXT

.

. swilk LegNEMedio LegCPCMedio wlTAM COMPLEX CAPIT WsqEXT

Shapiro-Wilk W test for normal data

Variable | Obs W V z Prob>z

-------------+--------------------------------------------------

LegNEMedio | 320 0.99007 2.240 1.899 0.02877

LegCPCMedio | 320 0.99048 2.148 1.800 0.03589

wlTAM | 320 0.98707 2.918 2.521 0.00585

COMPLEX | 320 0.98182 4.101 3.323 0.00045

CAPIT | 320 0.92069 17.894 6.792 0.00000

WsqEXT | 320 0.98946 2.377 2.039 0.02073

.

end of do-file

. do "C:\Users\Regis\AppData\Local\Temp\STD01000000.tmp"

.

. sktest LegNEMedio LegCPCMedio wlTAM COMPLEX CAPIT WsqEXT, noadjust

Skewness/Kurtosis tests for Normality

------- joint ------

Variable | Obs Pr(Skewness) Pr(Kurtosis) chi2(2) Prob>chi2

-------------+---------------------------------------------------------------

LegNEMedio | 320 0.1482 0.1195 4.52 0.1046

LegCPCMedio | 320 0.0354 0.7901 4.50 0.1056

wlTAM | 320 0.3393 0.0003 13.93 0.0009

COMPLEX | 320 0.6327 0.0000 35.24 0.0000

CAPIT | 320 0.1404 . . .

WsqEXT | 320 0.1031 0.0000 22.63 0.0000

. \* Comentário teórico: teste de assimetria e curtose

.

end of do-file

. do "C:\Users\Regis\AppData\Local\Temp\STD01000000.tmp"

. pwcorr LegNEMedio LegCPCMedio RevCPC wlTAM COMPLEX CAPIT GC AUDIT WsqEXT ADR, star(0.05) //verifica a correlação (força da associação entre as

> variáveis) e ajuda a verificar se há problemas de multicolinearidade (altas correlações)

| LegNEM~o LegCP~io RevCPC wlTAM COMPLEX CAPIT GC

-------------+---------------------------------------------------------------

LegNEMedio | 1.0000

LegCPCMedio | 0.1898\* 1.0000

RevCPC | -0.0178 -0.0275 1.0000

wlTAM | -0.0445 -0.0349 0.0495 1.0000

COMPLEX | -0.0799 -0.1885\* 0.0072 0.3868\* 1.0000

CAPIT | 0.0466 0.1601\* 0.0423 0.6452\* 0.2023\* 1.0000

GC | 0.0554 -0.0166 0.0097 -0.4765\* -0.1441\* -0.4715\* 1.0000

AUDIT | -0.2250\* -0.2655\* -0.0667 -0.1245\* 0.2611\* 0.0458 0.0486

WsqEXT | -0.1962\* -0.3127\* -0.0127 0.4142\* 0.3763\* 0.1109\* -0.2729\*

ADR | -0.1520\* 0.0698 0.0000 0.6552\* 0.3430\* 0.5078\* -0.2236\*

| AUDIT WsqEXT ADR

-------------+---------------------------

AUDIT | 1.0000

WsqEXT | 0.1911\* 1.0000

ADR | 0.0400 0.3964\* 1.0000

.

end of do-file

. do "C:\Users\Regis\AppData\Local\Temp\STD01000000.tmp"

. qui reg LegNEMedio LegCPCMedio RevCPC wlTAM COMPLEX CAPIT GC AUDIT WsqEXT ADR

. vif

Variable | VIF 1/VIF

-------------+----------------------

wlTAM | 3.29 0.304131

CAPIT | 2.30 0.435438

ADR | 2.08 0.480216

WsqEXT | 1.67 0.599974

GC | 1.50 0.667020

COMPLEX | 1.40 0.715521

AUDIT | 1.37 0.727533

LegCPCMedio | 1.30 0.769366

RevCPC | 1.01 0.986603

-------------+----------------------

Mean VIF | 1.77

.

end of do-file

. do "C:\Users\Regis\AppData\Local\Temp\STD01000000.tmp"

. xtserial LegNEMedio LegCPCMedio RevCPC wlTAM COMPLEX CAPIT GC AUDIT WsqEXT ADRR, output //roda o teste de woodridge de autocorrelação.

variable ADRR not found

r(111);

end of do-file

r(111);

. do "C:\Users\Regis\AppData\Local\Temp\STD01000000.tmp"

. xtserial LegNEMedio LegCPCMedio RevCPC wlTAM COMPLEX CAPIT GC AUDIT WsqEXT ADR, output //roda o teste de woodridge de autocorrelação.

Linear regression Number of obs = 280

F( 8, 39) = 2.47

Prob > F = 0.0287

R-squared = 0.0484

Root MSE = 2.4219

(Std. Err. adjusted for 40 clusters in idempresa)

------------------------------------------------------------------------------

| Robust

D.LegNEMedio | Coef. Std. Err. t P>|t| [95% Conf. Interval]

-------------+----------------------------------------------------------------

LegCPCMedio |

D1. | .4998342 .3295822 1.52 0.137 -.1668088 1.166477

|

RevCPC |

D1. | -.2314108 .3329117 -0.70 0.491 -.9047883 .4419667

|

wlTAM |

D1. | -.2969567 1.032122 -0.29 0.775 -2.384621 1.790708

|

COMPLEX |

D1. | .5280684 .3294091 1.60 0.117 -.1382244 1.194361

|

CAPIT |

D1. | .215256 .1246993 1.73 0.092 -.0369721 .4674842

|

GC |

D1. | .4372908 .5551337 0.79 0.436 -.6855732 1.560155

|

AUDIT |

D1. | -.1551833 .3644242 -0.43 0.673 -.8923008 .5819342

|

WsqEXT |

D1. | -.3136415 .2712991 -1.16 0.255 -.8623957 .2351128

|

ADR |

D1. | 0 (omitted)

------------------------------------------------------------------------------

Wooldridge test for autocorrelation in panel data

H0: no first-order autocorrelation

F( 1, 39) = 11.166

Prob > F = 0.0018

.

end of do-file

. do "C:\Users\Regis\AppData\Local\Temp\STD01000000.tmp"

. xtserial LegNEMedio LegCPCMedio RevCPC wlTAM COMPLEX CAPIT GC AUDIT WsqEXT ADR, output //roda o teste de woodridge de autocorrelação.

Linear regression Number of obs = 280

F( 8, 39) = 2.47

Prob > F = 0.0287

R-squared = 0.0484

Root MSE = 2.4219

(Std. Err. adjusted for 40 clusters in idempresa)

------------------------------------------------------------------------------

| Robust

D.LegNEMedio | Coef. Std. Err. t P>|t| [95% Conf. Interval]

-------------+----------------------------------------------------------------

LegCPCMedio |

D1. | .4998342 .3295822 1.52 0.137 -.1668088 1.166477

|

RevCPC |

D1. | -.2314108 .3329117 -0.70 0.491 -.9047883 .4419667

|

wlTAM |

D1. | -.2969567 1.032122 -0.29 0.775 -2.384621 1.790708

|

COMPLEX |

D1. | .5280684 .3294091 1.60 0.117 -.1382244 1.194361

|

CAPIT |

D1. | .215256 .1246993 1.73 0.092 -.0369721 .4674842

|

GC |

D1. | .4372908 .5551337 0.79 0.436 -.6855732 1.560155

|

AUDIT |

D1. | -.1551833 .3644242 -0.43 0.673 -.8923008 .5819342

|

WsqEXT |

D1. | -.3136415 .2712991 -1.16 0.255 -.8623957 .2351128

|

ADR |

D1. | 0 (omitted)

------------------------------------------------------------------------------

Wooldridge test for autocorrelation in panel data

H0: no first-order autocorrelation

F( 1, 39) = 11.166

Prob > F = 0.0018

.

end of do-file

. do "C:\Users\Regis\AppData\Local\Temp\STD01000000.tmp"

. qui xtreg LegNEMedio LegCPCMedio RevCPC wlTAM COMPLEX CAPIT GC AUDIT WsqEXT ADR,fe

. xttest3 //roda o teste de wald para detecção de heterocedasticidade.

Modified Wald test for groupwise heteroskedasticity

in fixed effect regression model

H0: sigma(i)^2 = sigma^2 for all i

chi2 (40) = 2747.02

Prob>chi2 = 0.0000

.

end of do-file

. do "C:\Users\Regis\AppData\Local\Temp\STD01000000.tmp"

. qui xtreg LegNEMedio LegCPCMedio RevCPC wlTAM COMPLEX CAPIT GC AUDIT WsqEXT ADR, re

. xttest0

Breusch and Pagan Lagrangian multiplier test for random effects

LegNEMedio[idempresa,t] = Xb + u[idempresa] + e[idempresa,t]

Estimated results:

| Var sd = sqrt(Var)

---------+-----------------------------

LegNEMe~o | 15.14885 3.892152

e | 4.579768 2.140039

u | 10.83898 3.292261

Test: Var(u) = 0

chibar2(01) = 457.71

Prob > chibar2 = 0.0000

.

end of do-file

. do "C:\Users\Regis\AppData\Local\Temp\STD01000000.tmp"

. xtreg LLegNEMedio LegCPCMedio RevCPC wlTAM COMPLEX CAPIT GC AUDIT WsqEXT ADR, fe

variable LLegNEMedio not found

r(111);

end of do-file

r(111);

. do "C:\Users\Regis\AppData\Local\Temp\STD01000000.tmp"

. \*\*\*\*\*\*\*\*TESTE DE CHOW: POOLED X EFEITO FIXO; H0: POOLED, H1: EFEITO FIXO \*\*\*\*\*\*\*\*\*\*\*\*\*\*\*\*\*\*\*\*\*\*\*\*\*\*\*\*\*\*\*\*\*\*\*

. xtreg LegNEMedio LegCPCMedio RevCPC wlTAM COMPLEX CAPIT GC AUDIT WsqEXT ADR, fe

note: ADR omitted because of collinearity

Fixed-effects (within) regression Number of obs = 320

Group variable: idempresa Number of groups = 40

R-sq: within = 0.0887 Obs per group: min = 8

between = 0.0022 avg = 8.0

overall = 0.0072 max = 8

F(8,272) = 3.31

corr(u\_i, Xb) = -0.4614 Prob > F = 0.0013

------------------------------------------------------------------------------

LegNEMedio | Coef. Std. Err. t P>|t| [95% Conf. Interval]

-------------+----------------------------------------------------------------

LegCPCMedio | .5023581 .2524807 1.99 0.048 .0052934 .9994227

RevCPC | -.2545925 .257505 -0.99 0.324 -.7615487 .2523637

wlTAM | .3097708 .6075481 0.51 0.611 -.8863236 1.505865

COMPLEX | .1737882 .25274 0.69 0.492 -.323787 .6713635

CAPIT | .13626 .0826086 1.65 0.100 -.0263735 .2988936

GC | -1.241951 1.048588 -1.18 0.237 -3.306332 .8224301

AUDIT | -.0375107 .9432464 -0.04 0.968 -1.894502 1.819481

WsqEXT | -.222396 .1787402 -1.24 0.214 -.574286 .1294941

ADR | 0 (omitted)

\_cons | .1665338 14.95759 0.01 0.991 -29.28083 29.6139

-------------+----------------------------------------------------------------

sigma\_u | 3.8029615

sigma\_e | 2.1400393

rho | .75949481 (fraction of variance due to u\_i)

------------------------------------------------------------------------------

F test that all u\_i=0: F(39, 272) = 17.71 Prob > F = 0.0000

.

end of do-file

. do "C:\Users\Regis\AppData\Local\Temp\STD01000000.tmp"

. qui xtreg LegNEMedio LegCPCMedio RevCPC wlTAM COMPLEX CAPIT GC AUDIT WsqEXT ADR, fe

. estimates store fe

. qui xtreg LegNEMedio LegCPCMedio RevCPC wlTAM COMPLEX CAPIT GC AUDIT WsqEXT ADR, re

. estimates store re

.

. hausman fe re, sigmamore

Note: the rank of the differenced variance matrix (7) does not equal the number of coefficients being tested (8); be sure this is what you expect,

or there may be problems computing the test. Examine the output of your estimators for anything unexpected and possibly consider scaling

your variables so that the coefficients are on a similar scale.

---- Coefficients ----

| (b) (B) (b-B) sqrt(diag(V\_b-V\_B))

| fe re Difference S.E.

-------------+----------------------------------------------------------------

LegCPCMedio | .5023581 .581505 -.0791469 .124534

RevCPC | -.2545925 -.2309645 -.0236281 .0388974

wlTAM | .3097708 .3027169 .007054 .3842241

COMPLEX | .1737882 .1281084 .0456799 .1343033

CAPIT | .13626 .0847956 .0514644 .0576791

GC | -1.241951 -.1800314 -1.061919 .7076169

AUDIT | -.0375107 -.4560441 .4185334 .3126208

WsqEXT | -.222396 -.2259758 .0035798 .0631042

------------------------------------------------------------------------------

b = consistent under Ho and Ha; obtained from xtreg

B = inconsistent under Ha, efficient under Ho; obtained from xtreg

Test: Ho: difference in coefficients not systematic

chi2(7) = (b-B)'[(V\_b-V\_B)^(-1)](b-B)

= 5.81

Prob>chi2 = 0.5618

(V\_b-V\_B is not positive definite)

. hausman fe re, sigmaless

Note: the rank of the differenced variance matrix (7) does not equal the number of coefficients being tested (8); be sure this is what you expect,

or there may be problems computing the test. Examine the output of your estimators for anything unexpected and possibly consider scaling

your variables so that the coefficients are on a similar scale.

---- Coefficients ----

| (b) (B) (b-B) sqrt(diag(V\_b-V\_B))

| fe re Difference S.E.

-------------+----------------------------------------------------------------

LegCPCMedio | .5023581 .581505 -.0791469 .1247778

RevCPC | -.2545925 -.2309645 -.0236281 .0389735

wlTAM | .3097708 .3027169 .007054 .3849762

COMPLEX | .1737882 .1281084 .0456799 .1345662

CAPIT | .13626 .0847956 .0514644 .057792

GC | -1.241951 -.1800314 -1.061919 .709002

AUDIT | -.0375107 -.4560441 .4185334 .3132327

WsqEXT | -.222396 -.2259758 .0035798 .0632277

------------------------------------------------------------------------------

b = consistent under Ho and Ha; obtained from xtreg

B = inconsistent under Ha, efficient under Ho; obtained from xtreg

Test: Ho: difference in coefficients not systematic

chi2(7) = (b-B)'[(V\_b-V\_B)^(-1)](b-B)

= 5.79

Prob>chi2 = 0.5645

(V\_b-V\_B is not positive definite)

.

end of do-file

. do "C:\Users\Regis\AppData\Local\Temp\STD01000000.tmp"

. \*\*\*\*\*\*\*\*\*\*\*\*\*\*\*\*\*\*\*\*\*\*\*\*\*\*\*\*\*\*\*\*\*\*\*\*\*\*\* MODELOS DE REGRESSÃO \*\*\*\*\*\*\*\*\*\*\*\*\*\*\*\*\*\*\*\*\*\*\*\*\*\*\*\*\*\*\*\*\*\*\*\*\*\*\*\*\*\*\*\*\*\*\*\*

. xtreg LegNEMedio LegCPCMedio RevCPC wlTAM COMPLEX CAPIT GC AUDIT WsqEXT ADR, fe vce(robust)

note: ADR omitted because of collinearity

Fixed-effects (within) regression Number of obs = 320

Group variable: idempresa Number of groups = 40

R-sq: within = 0.0887 Obs per group: min = 8

between = 0.0022 avg = 8.0

overall = 0.0072 max = 8

F(8,39) = 2.23

corr(u\_i, Xb) = -0.4614 Prob > F = 0.0462

(Std. Err. adjusted for 40 clusters in idempresa)

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| Robust

LegNEMedio | Coef. Std. Err. t P>|t| [95% Conf. Interval]

-------------+----------------------------------------------------------------

LegCPCMedio | .5023581 .293931 1.71 0.095 -.0921736 1.09689

RevCPC | -.2545925 .3025123 -0.84 0.405 -.8664814 .3572963

wlTAM | .3097708 .951505 0.33 0.746 -1.61483 2.234371

COMPLEX | .1737882 .3421043 0.51 0.614 -.518183 .8657595

CAPIT | .13626 .1190176 1.14 0.259 -.1044757 .3769958

GC | -1.241951 1.01853 -1.22 0.230 -3.302123 .8182216

AUDIT | -.0375107 .6007968 -0.06 0.951 -1.252737 1.177716

WsqEXT | -.222396 .182288 -1.22 0.230 -.5911083 .1463163

ADR | 0 (omitted)

\_cons | .1665338 18.9662 0.01 0.993 -38.19622 38.52929

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sigma\_u | 3.8029615

sigma\_e | 2.1400393

rho | .75949481 (fraction of variance due to u\_i)

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. xtreg LegNEMedio LegCPCMedio RevCPC wlTAM COMPLEX CAPIT GC AUDIT WsqEXT ADR, re vce(robust)

Random-effects GLS regression Number of obs = 320

Group variable: idempresa Number of groups = 40

R-sq: within = 0.0830 Obs per group: min = 8

between = 0.0877 avg = 8.0

overall = 0.0846 max = 8

Wald chi2(9) = 18.19

corr(u\_i, X) = 0 (assumed) Prob > chi2 = 0.0330

(Std. Err. adjusted for 40 clusters in idempresa)

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| Robust

LegNEMedio | Coef. Std. Err. z P>|z| [95% Conf. Interval]

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LegCPCMedio | .581505 .2495912 2.33 0.020 .0923152 1.070695

RevCPC | -.2309645 .3059584 -0.75 0.450 -.8306319 .368703

wlTAM | .3027169 .6913709 0.44 0.661 -1.052345 1.657779

COMPLEX | .1281084 .290257 0.44 0.659 -.4407849 .6970016

CAPIT | .0847956 .0574668 1.48 0.140 -.0278373 .1974285

GC | -.1800314 .9298604 -0.19 0.846 -2.002524 1.642462

AUDIT | -.4560441 .7323158 -0.62 0.533 -1.891357 .9792684

WsqEXT | -.2259758 .1690584 -1.34 0.181 -.5573242 .1053726

ADR | -2.450977 1.218806 -2.01 0.044 -4.839792 -.0621617

\_cons | -1.474252 12.56528 -0.12 0.907 -26.10175 23.15325

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sigma\_u | 3.2922609

sigma\_e | 2.1400393

rho | .7029741 (fraction of variance due to u\_i)

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end of do-file

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