

“Pris” – An application for index estimation

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Fitwi Wolday, Statistics Norway

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Overview

- Background
 - “Pris” an integral part of ISEE
 - Interface/communication with other applications
- Hierarchical estimation of an index in “Pris”
 - Elementary/micro index estimation
 - Aggregation of elementary indices
 - Integration of weights into the application
 - Chaining in “Pris”
 - Output / Results
 - ♦ Display
 - ♦ Controls in “Pris”

Background

- ISEE

- DynaRev (~Dynamic editing)
 - ◆ Administration of weights (index calculation)
 - ◆ Price data
- “Pris” A 6-step Index estimation application.
 - ◆ Model specification
 - ◆ Data source
 - ◆ Variable specification
 - ◆ Elementary aggregates
 - ◆ Sub indices
 - ◆ Results
 - ◆ “Pris” with DynaRev as a data source

- “Pris”

- Interface/communication with other applications
- A-z in one set
 - ◆ Interactive, menu-based with tips and help-texts
 - ◆ Index estimation and statistical estimates
 - ◆ Editing and controls

Hierarchical estimation of an index in "Pris"

- Model choice
 - Elementary/micro index estimation
 - Aggregation of elementary indices
 - ♦ L-type Index?
 - ♦ P-type index?

The screenshot shows a software window titled "Pris" with a menu bar containing "Modell", "Filer", "Variabler", "Elementærnivå", "Delindekser", and "Resultater". The main area displays a welcome message: "Velkommen!" followed by instructions: "Informasjon og hjelp finner du ved å trykke Hjelp-knappen nede til venstre." and "Start med å velge elementærindeks og aggregering over elementærindekser, og trykk Neste knappen nedenfor." Below this, there are two sections for selection:

Elementærindeks

- Carli (aritmetisk gjennomsnitt av prisrelativer)
- Dutot (rate av aritmetiske gjennomsnitt av priser)
- Jevons (geometrisk gjennomsnitt av prisrelativer)

Aggregering over elementærindekser

- L-type indeks
- P-type indeks

.....continued

- Data source
 - SAS files from Unix/windows
 - Directly from DynaRev (data editing application)

Modell Filer Variabler Elementærnivå

Velg UNIX server og trykk koble til

Server Kodiak Koble til Koble fra

Datakilde: Unix Windows DynaRev

Delregister

LAGRING 113 KVRT

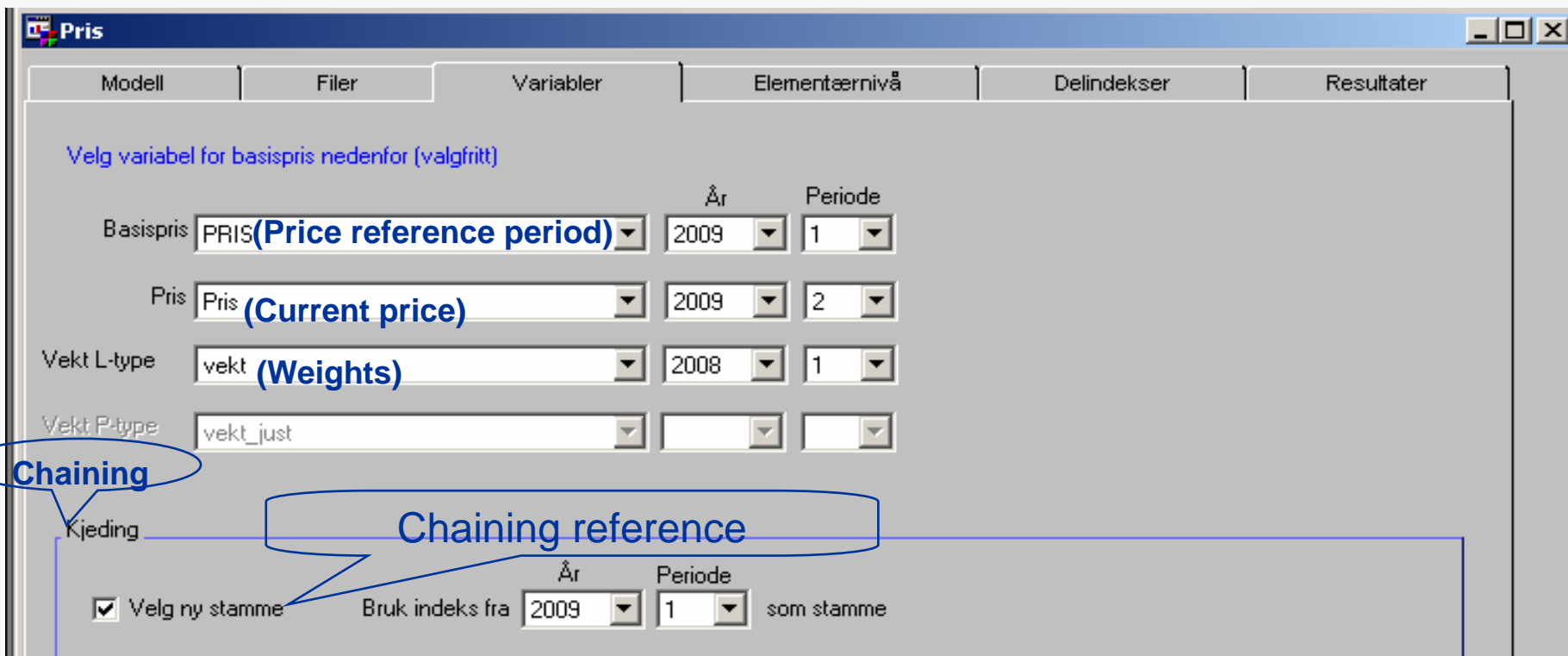
Index name

Index ID

Frequency (period)

.....continued

- Variable specification
 - Prices: reference prices as well as current price
 - Weights
 - Chaining details**



The screenshot shows the 'Pris' software interface with the following settings:

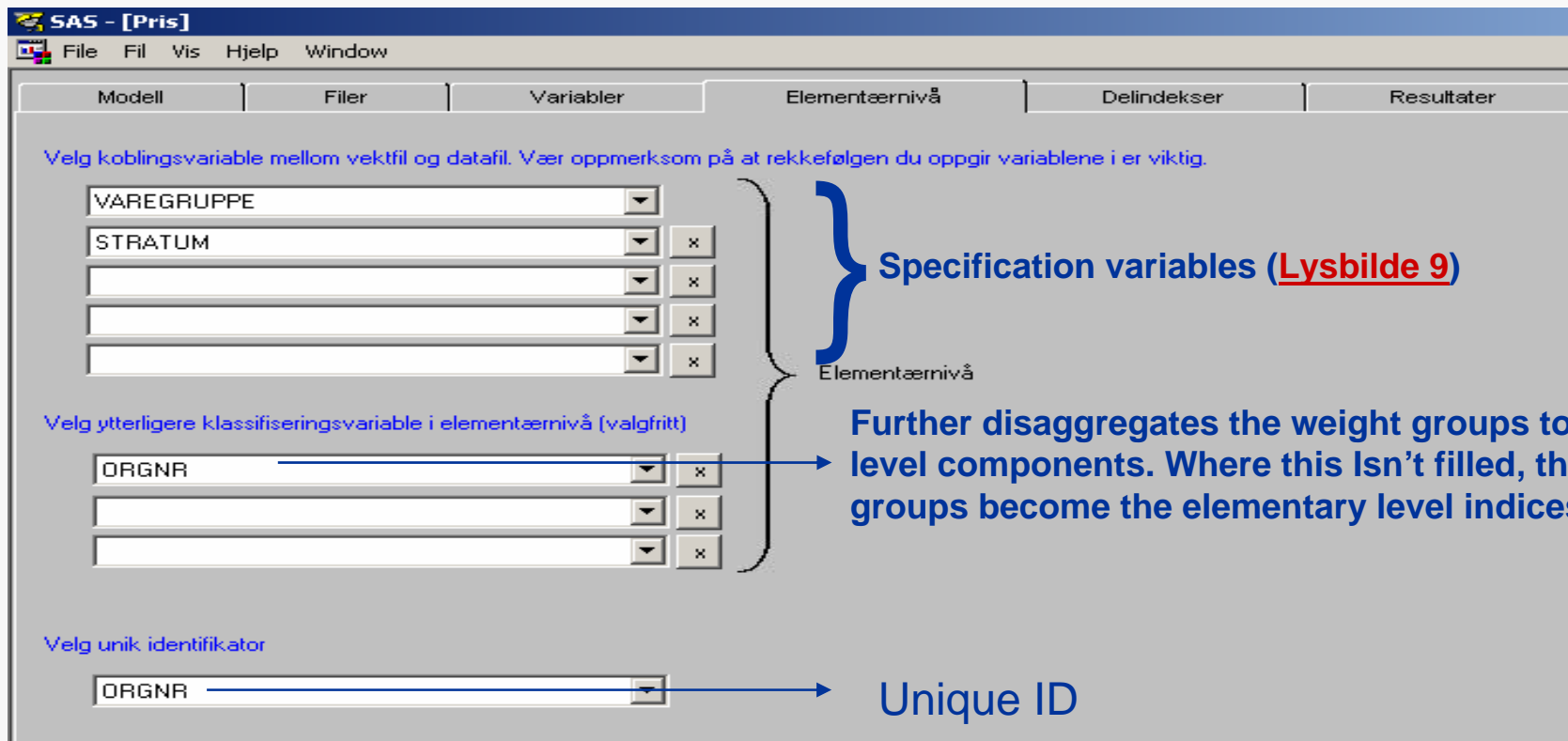
Modell	Filer	Variabler	Elementærnivå	Delindekser	Resultater
Velg variabel for basispris nedenfor (valgfritt)					
Basispris	PRIS (Price reference period)	2009	1		
Pris	Pris (Current price)	2009	2		
Vekt L-type	vekt (Weights)	2008	1		
Vekt P-type	vekt_just				
Kjedning					
<input checked="" type="checkbox"/>	Velg ny stamme	Bruk indeks fra	2009	1	som stamme

Hand-drawn annotations on the screenshot:

- A blue circle highlights the word "Chaining" in the "Kjedning" section.
- A blue oval highlights the "Chaining reference" text, which is a label for the "Velg ny stamme" checkbox and its associated date/period settings.

Integration of weights in to the application

- weights groups in DynaRev are referred to in a matching order as in the price data.
 - The variables must exist both in the weights data and price data
 - Special attention should be given to the hierarchy of aggregation.



The screenshot shows the SAS interface for the 'Pris' application. The 'Elementærnivå' tab is active, displaying options for selecting variables.

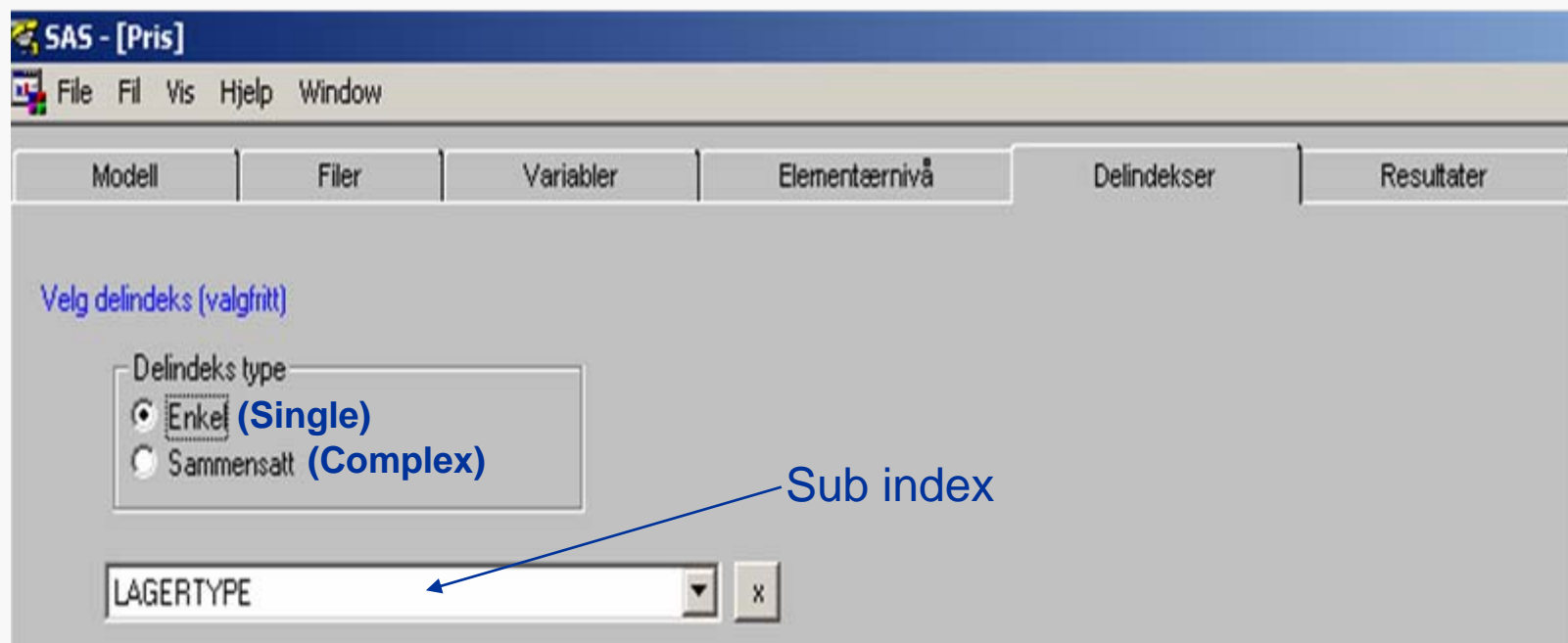
Specification variables (Lysbilde 9)
 This section includes the 'Elementærnivå' label and a list of variables: VAREGRUPPE, STRATUM, and three empty dropdowns. A blue bracket groups these as specification variables.

Further disaggregates the weight groups to lower level components. Where this Isn't filled, the weight groups become the elementary level indices
 This annotation points to the 'ORGNR' variable in the 'Velg ytterligere klassifiseringsvariable i elementærnivå (valgfritt)' section.

Unique ID
 This annotation points to the 'ORGNR' variable in the 'Velg unik identifikator' section.

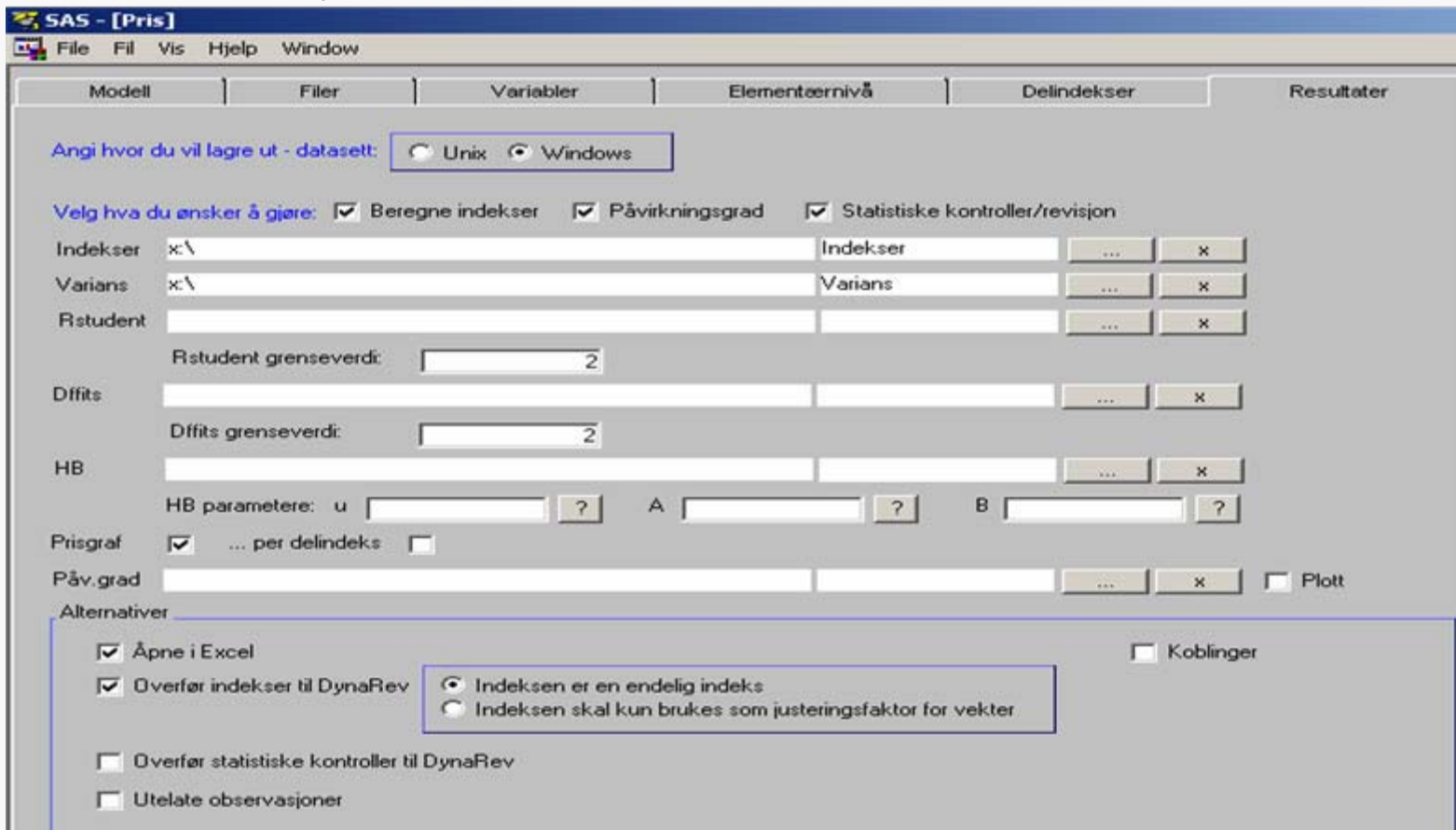
Output and display

- Defining sub indices
 - Single: sub indices are organized on the basis of one of the classification variables. Example: sub index by service type
 - Complex: Combines more than one classification variables. Example: sub index by stratum for every service type



.....Continued

- Results display



SAS - [Pris]
 File Fil Vis Hjelp Window

Modell | Filer | Variabler | Elementærnivå | Delindekser | Resultater

Angi hvor du vil lagre ut - datasett: Unix Windows

Velg hva du ønsker å gjøre: Beregne indekser Påvirkningsgrad Statistiske kontroller/revisjon

Indekser: x:\ Indekser
 Varians: x:\ Varians
 Rstudent:
 Rstudent grenseverdi:

Dffits:
 Dffits grenseverdi:

HB:
 HB parametere: u A B

Prisgraf: ... per delindeks

Påv.grad: Plott

Alternativer

Åpne i Excel Koblinger
 Overfør indekser til DynaRev Indeksen er en endelig indeks
 Indeksen skal kun brukes som justeringsfaktor for vektorer
 Overfør statistiske kontroller til DynaRev
 Utelate observasjoner

- Graphical presentation of prices. ([Lysbilde 13](#))
- Results can be viewed in SAS-results viewer / html, SAS dataset, excel dataset
 - ◆ [SAS Output.htm](#)

.....Continued

- Statistical estimates
 - Variance
 - Standard deviation
 - CV
 - LB and UB of confidence intervals
 - ♦ Lysbilde 14

Chaining in "Pris"

- "Pris" always generates a chained index. But for the chaining to be accurate a chaining reference must be specified. The index prior to the price reference period is set as a chaining reference.

Chaining

Velg ny stamme
 Bruk indeks fra som stamme

År Periode

- The index to be utilized as a chaining reference had to be transferred to DynaRev in preceding periods

Alternativer

Åpne i Excel **Open in excel**

Overfør indekser til DynaRev **Transfer to DynaRev**

Overfør statistiske kontroller til DynaRev (**transfer statistical controls to DynaRev**)

Utelate observasjoner (**Exclude observations**)

Koblinger **Matching**

Indeksen er en endelig indeks
 Indeksen skal kun brukes som justeringsfaktor for vekter

.....Chaining continued

- “Pris” allows for
 - Direct chaining
 - ◆ When changing only price reference period
 - ◆ When changing only weight
 - ◆ When changing both weights and price reference period
 - Indirect chaining (Price adjusted weights/ adjustment factor)
 - ◆ When changing only price reference period
 - ◆ When changing only weight
 - The adjustment factor for weights is calculated in “pris” and transferred in to DynaRev where the adjustment takes place
 - Lysbilde 17

Alternativer

Åpne i Excel

Overfør indekser til DynaRev

Transfer to DynaRev

Overfør statistiske kontroller til DynaRev

Utelate observasjoner

Direct index

Indeksen er en endelig indeks

Indeksen skal kun brukes som justeringsfaktor for vekter

Indirect index

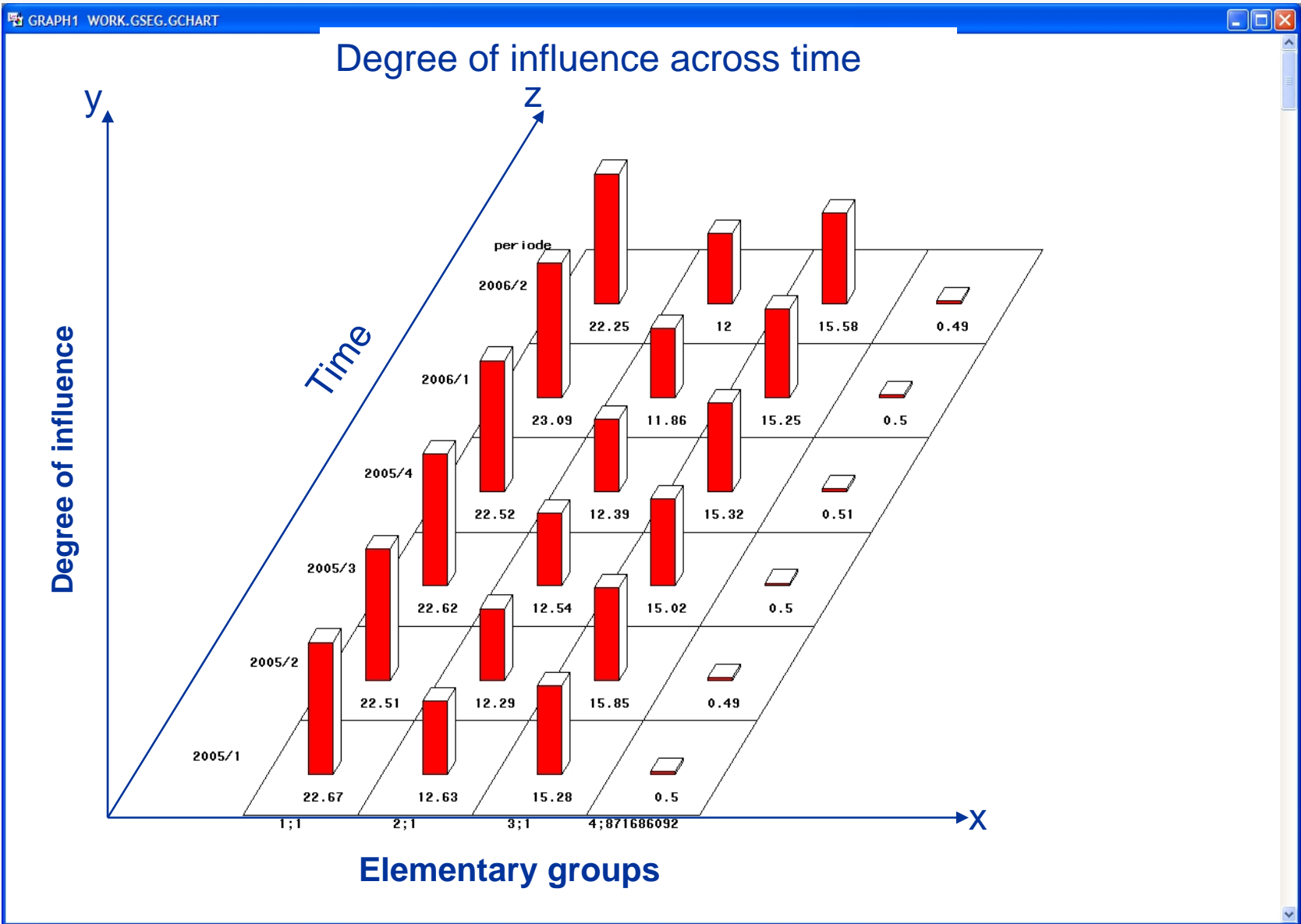
Koblinger

Controls in "Pris"

- Data controls
 - Temporary exemption of observations (extreme values)
 - Matching between price data
 - Matching between price observations and weight groups
 - Chaining control: matches between elementary groups before and after the chaining reference period

D:\Voorburg2009\Pris_SAS Output.htm
- Statistical controls
 - Rstudent, Dffits, HB, price graph

([Lysbilde 19](#))
- Aggregate control:
 - Degree of influence – applies to a group of data and measures the degree to which an elementary group influences the total index



Thank you!