



IT-System developed to manage scanner data

Jean-Michel Zürcher
26 and 27 Sept. 2013 (workshop on scanner data for HICP, Lisbon)



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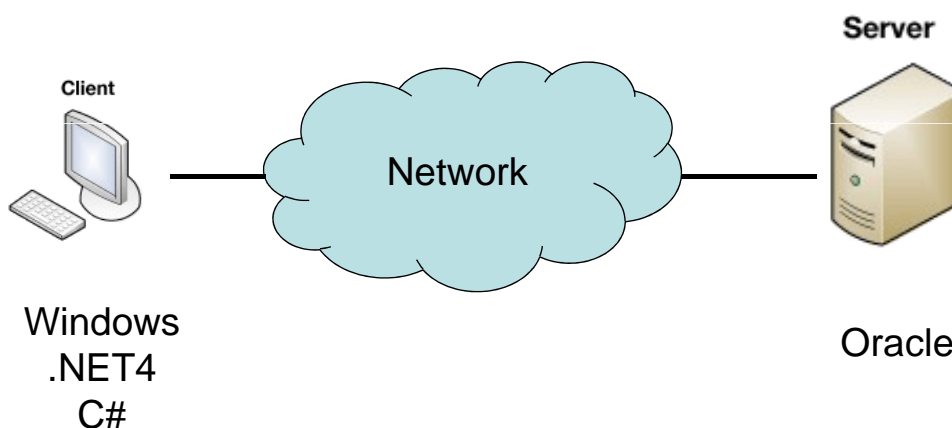
Introduction

- Scanner data have been implemented for 4 retail chains representing 75%-80% of the food and near-food market;
- First chain was introduced in 2008, last one in 2012;
- Pilot software with the first retail chain;
- Then development of a generic tool suitable for scanner data price collection from any retailer in Switzerland thanks to common interface definition;

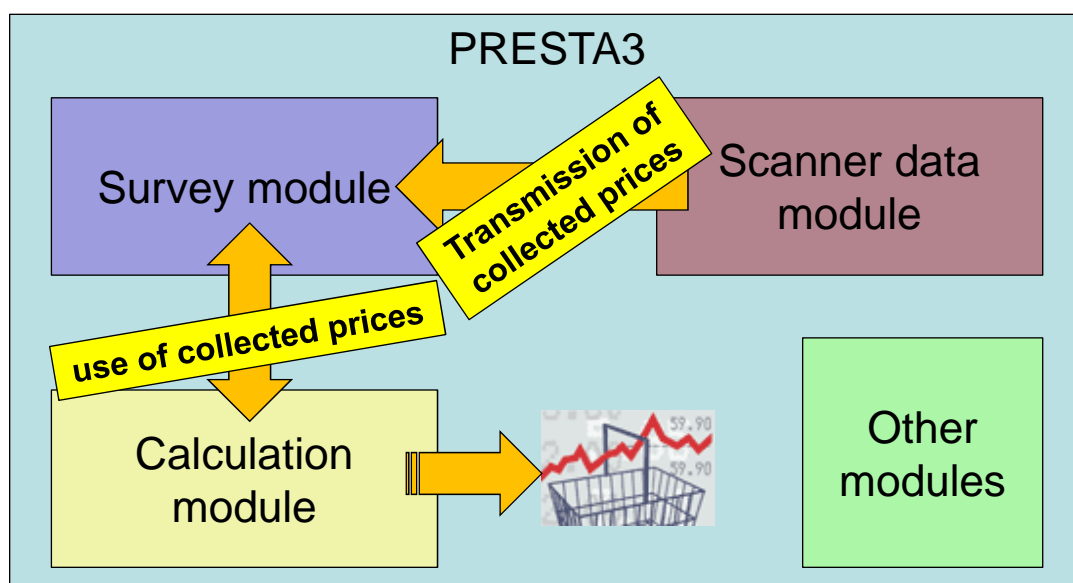


PRESTA3 – an integrated system (1)

Client-server model



PRESTA3 – an integrated system (2)



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Scanner data supply

- **Pre-aggregated data per item, period and price region.** Data supplied by retailers directly (fully automated process, but with some initial outlays);
- **Three different periods each month:** First 7 days (used for sampling), 14 days (used for index computation) and 31 days (sampling);
- **Common interface definition for all retail chains:** uniform format, but specific variables (e.g. more precise item descriptions) for each supplying retailer possible and desirable;
- **Separate data files for master data (item description etc.)** and transaction data (quantities, sales volumes etc.)

Artikel	Bezeichnung	D-U...	Preis	Pfad
3639191	Unde Ben's Lang-kornreis 10min. 1Kg		5.94	Frühstück/ Beilagen/Backzutaten/Tierbed. {&}Beilagen{&}Reis{&}Trockenreis{&}Marke
3639118	Unde Ben's Lang-kornreis 20min. 1Kg		4.29	Frühstück/ Beilagen/Backzutaten/Tierbed. {&}Beilagen{&}Reis{&}Trockenreis{&}Marke
3933883	Bio Reisgetränk mit Mandel 1L		3.39	Milchprodukte/ Eier {&}Milch{&}Milchersatz (Soja)
3567458	Naturaplan Bio Reisgetränk nature 1L		3.29	Milchprodukte/ Eier {&}Milch{&}Milchersatz (Soja)
3956022	UB Reis Langkorn 10 Min 8x125g		5.39	Frühstück/ Beilagen/Backzutaten/Tierbed. {&}Beilagen{&}Reis{&}Trockenreis{&}Marke
3120066	Camaroli Reis 1KG		4.19	Frühstück/ Beilagen/Backzutaten/Tierbed. {&}Beilagen{&}Reis{&}Risotto / Milchreis{&}EM
3639190	Unde Ben's Lang-kornreis 20min. 2Kg		7.43	Frühstück/ Beilagen/Backzutaten/Tierbed. {&}Beilagen{&}Reis{&}Trockenreis{&}Marke
3544776	ONE Sensitive Truthahn+Reis 800G		6.68	Frühstück/ Beilagen/Backzutaten/Tierbed. {&}Tierbedarf{&}Katze {&}Nahrung Katze{&}trocken
3671822	Bio Preiselbeernectar 50CL		3.49	AfG, Bier, Spirituosen, Tabak {&}alkoholfreie Erfrischungsgetränke {&}Säfte{&}Fruchtsäfte Kleingebinde (<= 5dl) {&}andere Fruchtsäfte

Artikelnummer: 3639191 EAN: 5410673004208 Web Seite: [Link](#)
 Bezeichnung: Unde Ben's Lang-kornreis 10min. 1Kg
 Hierarchie: Frühstück/ Beilagen/Backzutaten/Tierbed. {&}Beilagen{&}Reis{&}Trockenreis{&}Marke
☐ nicht relevant ☒ Für Umsätze < Mindestumsatz editierte Werte anzeigen (Standard = kursive Null) ☐ 2. Monatsperioden (z.B. Dez (2)) anzeigen

Umsätze	Mengen	Abmessungen	Merkmale	Produktlinie	Mehrfachpackung	Bild	Kommentar Artikel	History Stammdaten	History Zuordnung	History Artikelbauwahl	History Verknüpfung mit anderem Artikel
Region											
4101 -											
4111 -			SR - Suisse romande (scanner)								
4114 -			BE - Berne (scanner)								
4115 -			NW - Nord-Ouest de la Suisse (scanner)								
4116 -			JZ - Suisse centrale / Zurich (scanner)								
4118 -			OT - Suisse orientale (scanner)								
4119 -			TI - Tessin (scanner)								

Periode	AZH	AZ	EZ	GM	AZ	EZ	GM	AZH	AZ	EZ	GM	Status
LIX Sep 2013					5.94	5.94						
LIX Aug 2013					5.94	5.91	5.90					
LIX Jul 2013					4.68	5.00	5.36					
LIX Jun 2013					5.94	5.94	5.32					
LIX Mai 2013					5.93	5.94	5.94					
LIX Apr 2013					5.94	5.94	5.94					
LIX Mrz 2013					5.93	5.94	5.90					
LIX Feb 2013					4.91	4.74	4.98					
LIX Jan 2013					5.71	5.70	5.69					

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Import and management of the key

- Production of the key was **outsourced to a market research institute** (MRI) => MRI receive also the scanner data from the retail chains (for their own purposes);
- Key is received as a **text file** (standardized format);
- Import in our application;
- A specific system for **monitoring the key status** with the help of 3 variables was developed;

Key status system (1)

Not allocated: item without allocation;

Artikel	Bezeichnung	Status	ZO MFI	ZO BFS	Vorsch.
4104178	Bibi Greiflochfl. 250ml 5m+	nicht zugeordnet			

Automatically allocated: allocation from MRI;

Artikel	Bezeichnung	Status	ZO MFI	ZO BFS	Vorsch.
3068540	Lasagne Bolognese 1KG	automatisch zugeordnet MFI	1509		

Manually allocated: allocation from NSO;

Artikel	Bezeichnung	Status	ZO MFI	ZO BFS	Vorsch.
3022944	Maggi Quick Lunch Spaghetti Napoletana	manuell zugeordnet		1509	

Key status system (2)

Manual override: allocation from MRI but adapted by NSO;

Artikel	Bezeichnung	Status	ZO MFI	ZO BFS	Vorsch.
3451225	Hipp Spaghetti/Tomaten/Mozzarella 220G	manuell übersteuert	1001	1509	

Automatically allocated with new proposal by MRI;

Artikel	Bezeichnung	Status	ZO MFI	ZO BFS	Vorsch.
3361861	Betty Bossi Birchermüesli 320G	automatisch zugeordnet mit neuem Vorschlag MFI	1509		11133

Manually allocated with proposal by MRI;

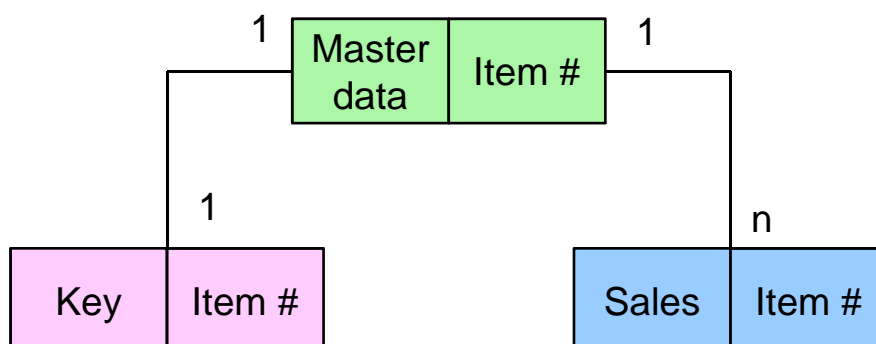
Artikel	Bezeichnung	Status	ZO MFI	ZO BFS	Vorsch.
3022383	Miracoli Spaghetti mit Tomatensauce	manuell zugeordnet mit Gegenvorschlag MFI	1508	1509	

Key status system (3)

Wrong allocation: allocation was done (MRI or NSO) but then judged as wrong;

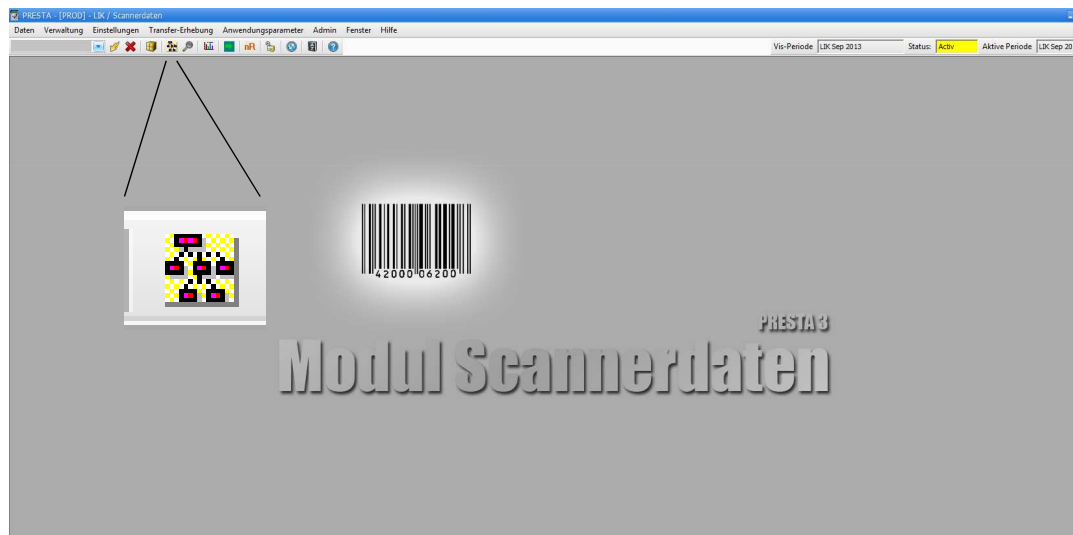
Artikel	Bezeichnung	Status	ZO MFI	ZO BFS	Vorschl.
3371418	Dom Manoir Rouge Jg 37.5CL	falsch zugeordnet	2022		

- At this point we have all the data we need to begin the price collection



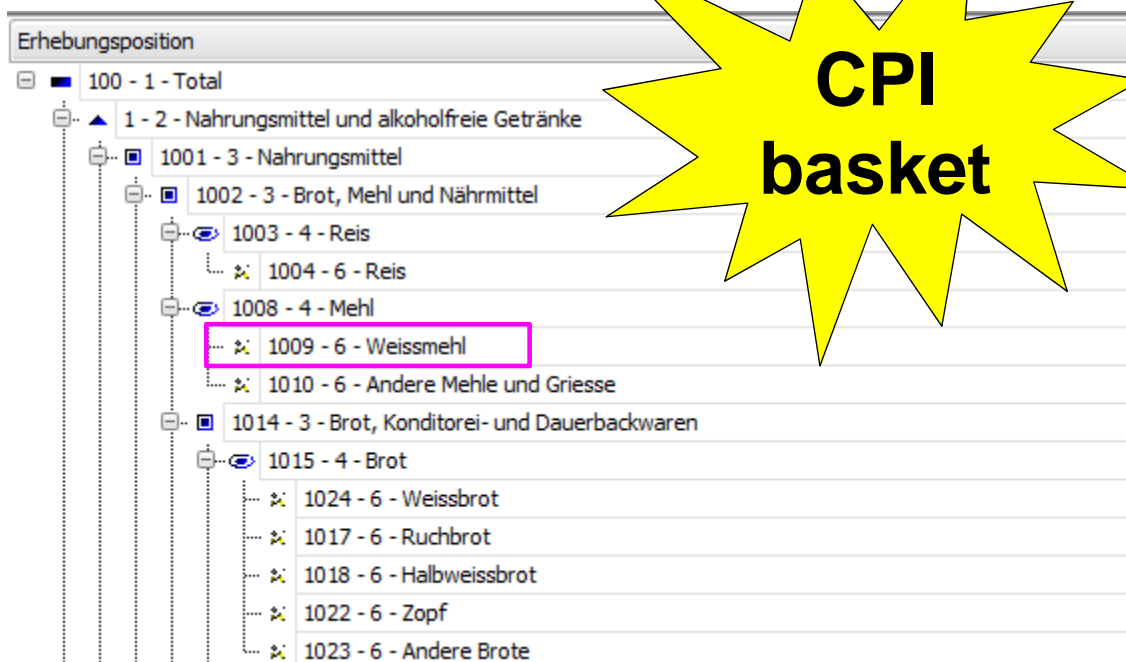


Managing the scanner data survey



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Survey information (price collector)

Information on position

Information on items

Position-Nr. 1009 Position Weissmehl Produkte pro PMS 3 Standardmenge 1 Standardeinheit kg Nächste Laufnummer 4 Erhebungsmonate (fett) J F M A M J J A S O N D

inkl. Weissmehl in Bio-Qualität PMS/Region Zentrale Erhebung

Warn.	LNR AP	BC	Menge	Artikelbezeichnung	DPR AP	D-UMS 6MTE	UMS AP	UMS VP	UMS VVP	Ausg.	Art. Nr.	Referenz Einzelart.	Faktor
	1 -		1.000	Weissmehl 1kg	1.75					LIK Mrz 2010	3031906		
	3 -		1.000	Weissmehl 10x1kg	16.01					LIK Nov 2012	3031261		
	2 -		1.000	Naturaplan Bio Weissmehl 1KG	2.79					LIK Jul 2012	3033271		
				Weissmehl 4x1kg	5.77						3460000	3031906	4
				Naturaplan Bio Weissmehl 500g	1.49						3388614		
				Naturaplan Bio Weissmehl 4x1KG	8.90						4549097		
				Weissmehl Zürich Regio 1KG	1.94						4389479		
				Molini Ticinesi Farina IPS 00 1Kg	1.79						4340269		
				Molino e Pastificio Weissmehl 1KG	2.30						3032811		
				Nacional Farinha Autolevedante 1KG	3.62						3711059		
				natürlig vo do Weissmehl 1KG	2.20						4278632		
				Naturaplan Bio Weissmehl 2x1kg							3822636		
				Nacional Farinha extra fina 1KG							3714506		

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Selection and replacement of items

- The strategy is to select the items with the **highest turnover** but also to have **items sold over a sufficient period of time** (price collector takes final decision if an item is actually allowed to enter the sample or not);
- **# of items for each position;**
- Price collector has to indicate **3 kind of information:**
 - ⇒ # of the price series;
 - ⇒ Treatment code;
 - ⇒ Quantity referred to by price indicated;

Selection and replacement of items (2)

	Warn.	LNR VP	LNR AP	BC	Menge	Artikelbezeichnung	Info	Ausg.	Art. Nr.
>		2	2	-	150.000	Fine Food Erdnüsse Wasabi 150g		LIK Mrz 2011	3511689
			5	2 - Vorperiodenpreis zu neuer Preismeldung	500.000	Pistazien geröstet+gesalzen 500g	Artikel neu aufgenommen	LIK Sep 2013	3153282
		4	4	-	150.000	Pittjes Nussmischung Gourmet de Luxe 150		LIK Sep 2012	3408578
		3	0	0 - Wegfall einer Preisreihe		Pittjes Erdnüsse geröstet+gesalzen 250g	BC 0: Artikel aus LIK entfernt	LIK Jul 2012	3153284

	Warn.	LNR VP	LNR AP	BC	Menge	Artikelbezeichnung	Info	Ausg.	Art. Nr.
>			3	1 - Substitution / Produktwechsel	5.000	Heineken Bier Dose 50CL	Artikel neu aufgenommen	LIK Dez 2010 (2)	3051592
		4	4	-	40.000	Oettinger Bier Dose 8x50CL		LIK Jul 2012	4290160
		3				Heineken Bier Dose 6x50CL	BC 1: Artikel aus LIK entfernt		3370210

	Warn.	LNR VP	LNR AP	BC	Menge	Artikelbezeichnung	Info	Ausg.	Art. Nr.
>		1	1	-	100.000	Café Hag koffeinfrei Glas 100G		LIK Mrz 2010	3031950
			2	7 - Echter Preis für Vorperiode	200.000	Nescafé Gold Sérénade Glas 200g	Artikel neu aufgenommen	LIK Jul 2012	3032431
						Nescafé Sérénade koffeinfrei 100G			3031830
		2				Nescafé GoldSérénade Smart Pack 150G	BC 7: Artikel aus LIK entfernt		4484839

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Management of the multipacks:

- Individual item is linked with the multipack (manually by price collector);
 - Factor has to be indicated;
- ⇒ Turnovers are then summed to create the unit value.

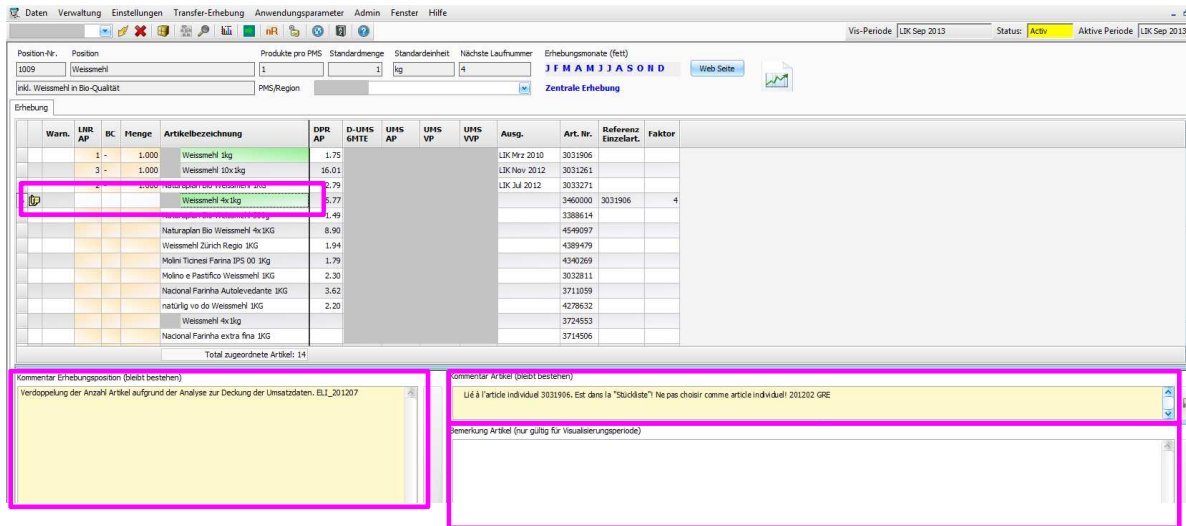
Erhebung	Warn.	LNR AP	BC	Menge	Artikelbezeichnung	DPR AP	D-UHS 6MTE	UHS AP	UHS VP	UHS VVP	Ausg.	Art. Nr.	Referenz Einzelart.	Faktor
		1	-	1.000	Weissmehl 1kg	1.75					LIK Mrz 2010	3031906		
		3	-	1.000	Weissmehl 10x1kg	16.01					LIK Nov 2012	3031261		
		2	-	1.000	Naturaplan Bio Weissmehl 1KG	2.79					LIK Jul 2012	3033271		
					Weissmehl 4x1kg	5.77						3460000	3031906	
R1					Naturaplan Bio Weissmehl 500g	1.49						3388614		
					Naturaplan Bio Weissmehl 4x1KG	8.90						4549097		
		4	2 ...	1.000	Weissmehl Zürich Regio 1KG	1.94					LIK Sep 2013	4389479		
>					Molini Ticinesi Farina IPS 00 1Kg	1.79						4340269		
					Molino e Pastificio Weissmehl 1KG	2.30						3032811		
					Nacional Farinha Autolevedante 1KG	3.62						3711059		
					natürlig vo do Weissmehl 1KG	2.20						4278632		
					Naturaplan Bio Weissmehl 2x1kg							3822636		
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Comments

- Three types of comments are possible



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Identifying where the sample has to be adapted

- Items are maintained in the sample as long as they have enough turnover to stay on top;
- **Automatic rules** were developed to produce warnings when an item has lost turnover;
- The system helps to identify where the sample has to be adapted but **changes are made manually** (operator takes the final decision on replacement or not).



Rules (1)

- Rules can be defined by position, for a group of positions or for a specific chain;
- Analysis and experiences were the main source of information to develop the rules;
- Idea was to combine representativeness and continuity of the sample into an automatic tool;



Rules (2)

- Rules are a combination of two criteria
 - 1) Average turnover over a specific number of months;
 - 2) Turnover over a number of consecutive individual months;

Example:

- Mean over a specific number of months = 6
- Number of consecutive individual month = 4
- A warning will be given to all non-selected items satisfying both criteria => having more turnover than a selected item according to the two criteria above.

Warnings:

- Non selected item has a warning => satisfy both criteria;
- Should be selected instead of price series #4.

Erhebung	Warn.	LNR AP	BC	Menge	Artikelbezeichnung	DPR AP	D-UMS 6MTE	UMS AP	UMS VP	UMS VVP	Ausg.	Art. Nr.	Referenz Einzelart.	Faktor
		1 -		1.000	Weissmehl 1kg	1.75					LDK Mrz 2010	3031906		
		3 -		1.000	Weissmehl 10x1kg	16.01					LDK Nov 2012	3031261		
		2 -		1.000	Naturaplan Bio Weissmehl 1KG	2.79					LDK Jul 2012	3033271		
					Weissmehl 4x1kg	5.77						3460000	3031906	4
	R1				Naturaplan Bio Weissmehl 500g	1.49						3388614		
					Naturaplan Bio Weissmehl 4x1KG	8.90						4549097		
		4 2 ...		1.000	Weissmehl Zürich Regio 1KG	1.94					LDK Sep 2013	4389479		
					Molini Tidinesi Farina IPS 00 1Kg	1.79						4340269		
					Molino e Pastificio Weissmehl 1KG	2.30						3032811		
					Nacional Farinha Autolevedante 1KG	3.62						3711059		
					natürlich vo do Weissmehl 1KG	2.20						4278632		
					Naturaplan Bio Weissmehl 2x1kg							3822636		
					Nacional Farinha extra fina 1KG							3714506		



Lists of warnings

R1

EP	Bezeichnung	Erh.-Art	Sais.	Region	R1
1044	Anderes Feingebäck und Konditoreiwaren	Z		4101	R1
1052	Trockenbiscuits (mit und ohne Schokolade)	Z		4101	R1
1457	Andere Schokolade	Z		4101	R1

Master data

EP	Bezeichnung	R30	R31	R32	R33	R34	R35
1060	Hörnli				R33		
1322	Pflaumen	R30					
1456	Schokolade in Tafelform		R31	R32			
1533	Tee			R32			
5234	Putz- / Reinigungsmittel (in ml)					R34	



List of positions where selected items have a turnover = 0 in the actual period

EP	Bezeichnung	Erh.-Art	Sais.	Region
1181	Inländische Fische	R		4111
1181	Inländische fische	R		4111
1217	Anderer Hartkäse	Z		4101
1232	Mozzarella	Z		4101
1234	Anderer Frischkäse	Z		4101
1236	Weisschimmelkäse	Z		4101
1260	Andere Milchdrinks	Z		4101
1261	Milchdessert	Z		4101
123700	Schmierkäse (Saison - Scannerdaten)	Z		4101
9				

Positions without selected items

EP	Bezeichnung	Erh.-Art	Sais.	Region	RB
1103	Geschnetzeltes Schweinefleisch	R		4119	RB

Transmission of scanner data prices

- Scanner data prices are unit values for each item and for each retail chain over a specific period;
- For the compilation of the CPI prices of **the 14 first days** of the months are used;



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Preise Detail

Preismeldestelle

Nr.	Name	Strasse	PLZ	Ort	Erhebungsregion
4101					9000 - Ganze Schweiz mit ...

Erhebungsposition

Nr.	Produkt-Code	Position	Inaktiv	Std. Menge	Std. Einheit
1009		Weissmehl	<input type="checkbox"/>	1	kg - Kilogramm

Preisreihe

Nr.	Text (Bezeichnung Preis)	Artikelnummer
1	Weissmehl 1kg	3031906

Bearbeitungscode

Preisart

0 - geliefert

Basismenge

1.000

Basispreis

1.7916

Preis gültig seit

01.03.2010

Unverändert seit

01.09.2013

Preis

VPK	Vormonat	Erhebungsmonat	% VPKN	% VPKnN	% PN	% PnN
	1.7341	1.7436			0.5478	0.5478
Menge	1.000	1.000				0.0000

Internet-Link

Ausland

0 - unbekannt

Verfügbarkeit (R)

Aktion

Ausverkauf

Sonderpreis

Plausibilisierung

Limite Vorp.

Visumsdatum

Visiert durch

Visumsgrund

Anmerkung

"Inkl. Mehrfachpackung; 3031906; Weissmehl 1kg; D-Preis = 1.75; 99.17%; 3460000; Weissmehl 4x1kg; D-Preis = 5.85; 0.83%; Enthält 4mal Einzelartikel"

BFS Bemerkung

Erf.Datum/ID

18.09.2013

U4708

Mut.Datum/ID

1

von/bis

LIK Sep 2013

LIK T99

Kommentar...

Neu

Preis löschen/zurücksetzen

Preis verlängern

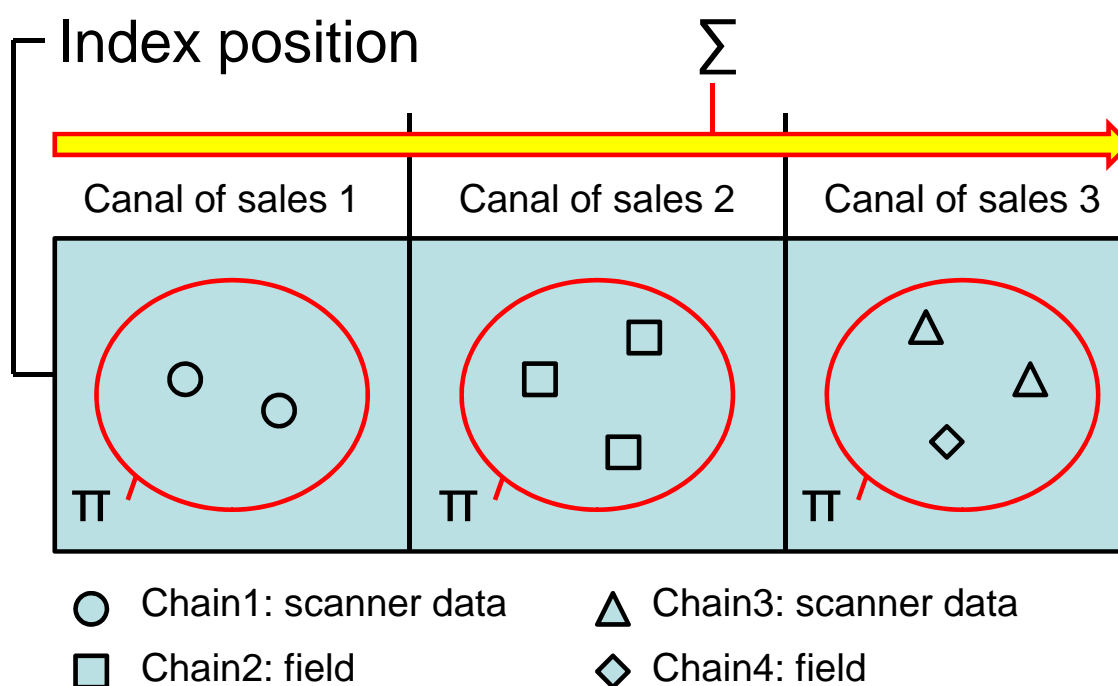
Speichern

Miscellaneous

Are scanner data prices mixed with prices collected on the field in the Swiss CPI?

Answer:

YES and NO...





Questions?



Thanks for your attention!



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