Univerzitet u Novom Sadu – Ekonomski fakultet Subotica

Sistemi poslovne inteligencije

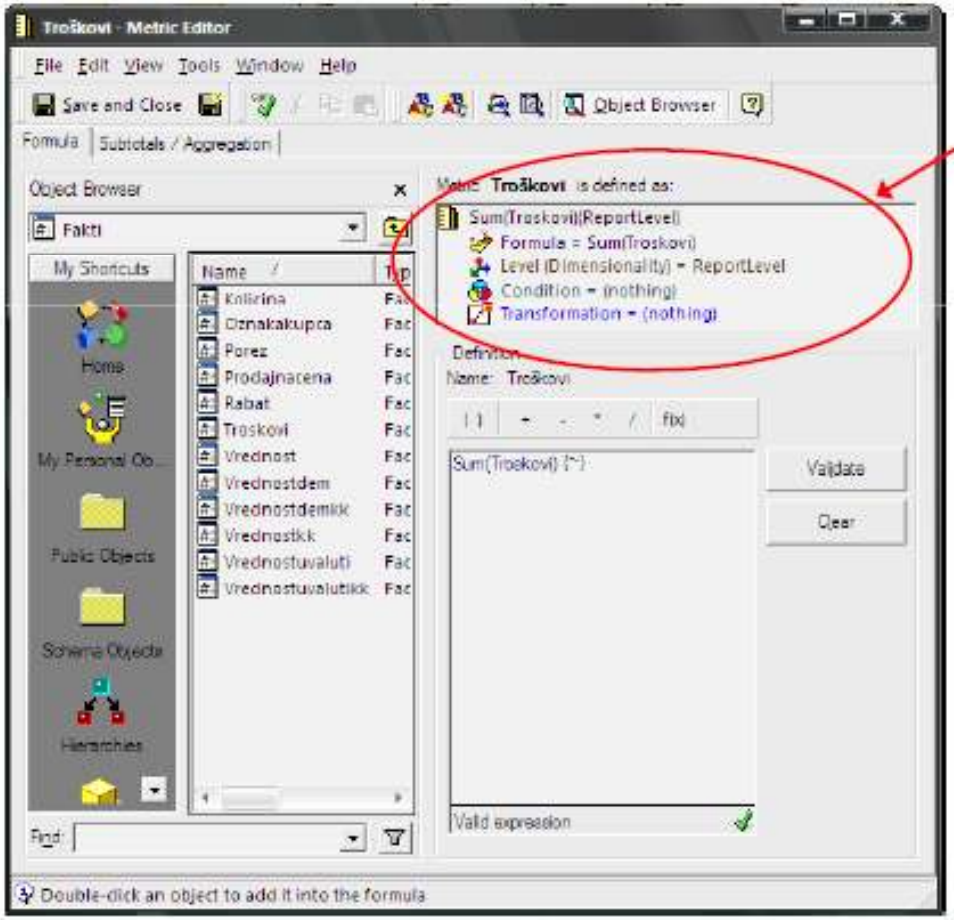
9. nedelja

3. Napredne tehnike-Složene metrike

Doc. dr Imre Petkovič

Složene metrike/mere

Komponente mera – Obavezne komponente su objašnjene ranije



Komponente mera

Obavezne komponente:
- Formula i
- Nivo

Opcione komponente:
- Uslov i
- Transformacija

Složene metrike/mere

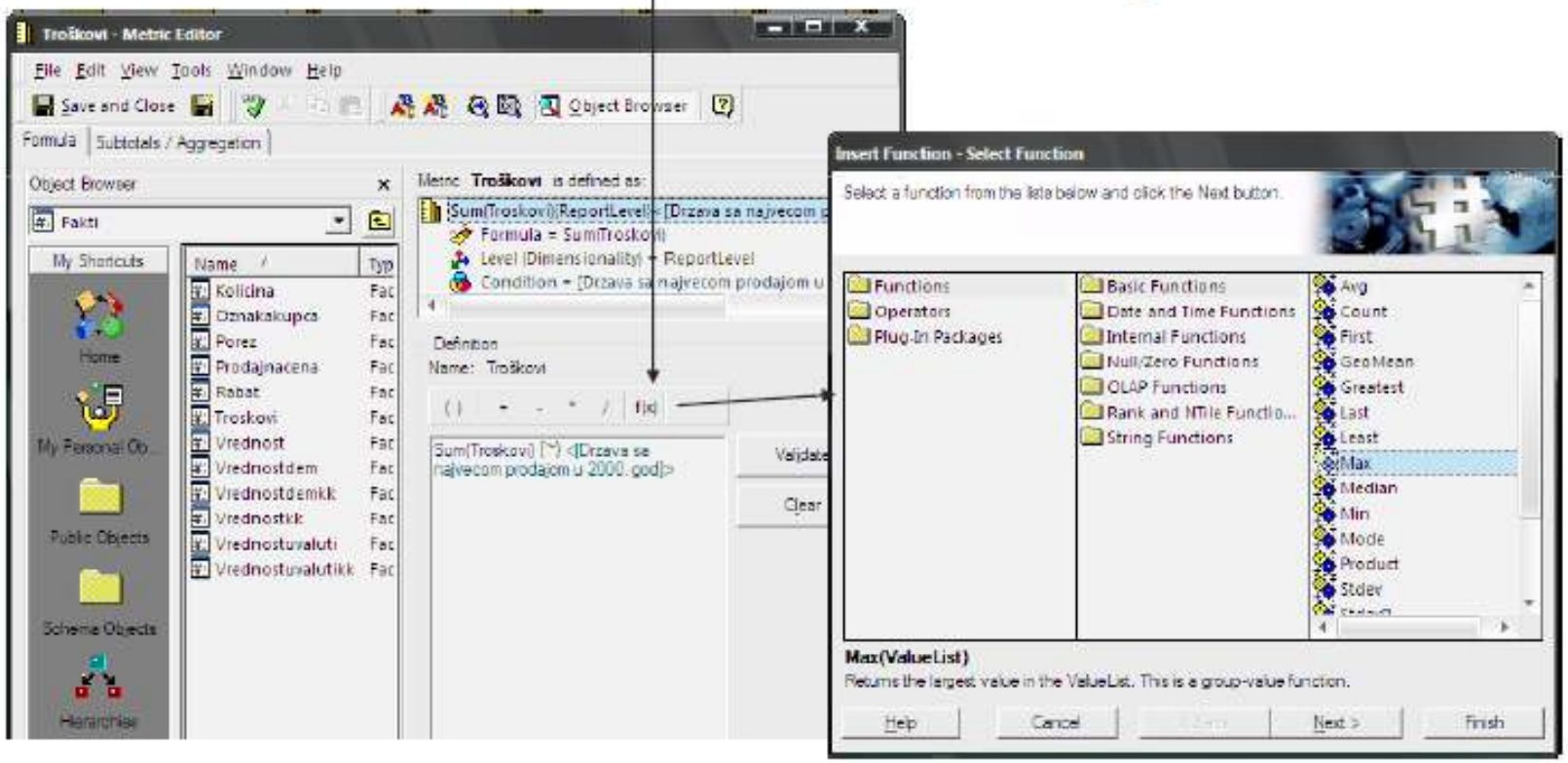
Komponente mera – Obavezne komponente (Formula i Nivo) su objašnjene ranije

- **Formula** – specificira tip proračuna koji treba izvršiti, a uključuje i činjenice, atribute ili mere kojima se definišu podaci nad kojima će se proračun vršiti.
- **Nivo** (Dimenzionalnost) – specificira nivo na kojem se podaci agregiraju.
- **Uslov** (Conditionality) – omogućuje povezivanje postojećeg filter objekta sa metrikom, kako bi samo podaci koji zadovoljavaju uslov bili uključeni u proračun.
- **Transformacija** – omogućuje povezivanje mere sa nekim objektom transformacione šeme, koji se koristi pri određivanju transformacione vrednosti koja predstavlja osnov za novo filtriranje podataka po nekom atributu isključivo za potrebe izračunavanja vred. ove mere.

Složene metrike/mere

Komponente mera – FORMULA

Formula mere – izbor funkcije



Složene metrike/mere

Komponente mera – NIVO

Parametri nivoa mere:

Cilj (Target)

Određuje po kojim atributima će se vršiti grupisanje pri računanju mere.

Grupisanje (Grouping)

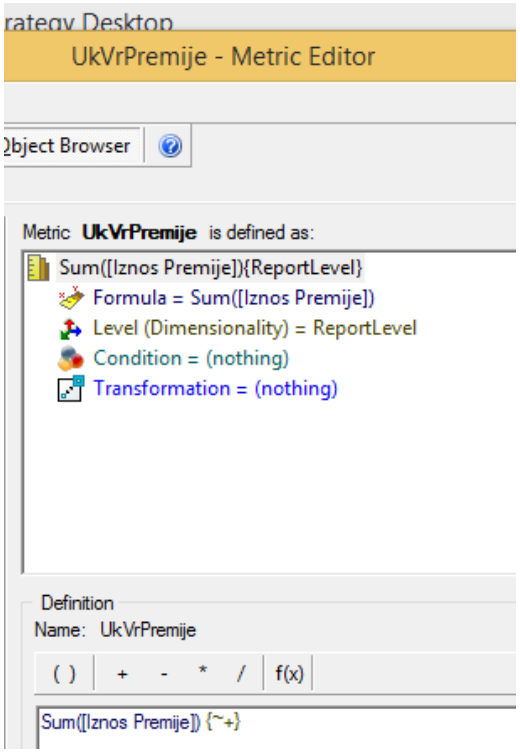
Grupisanjem se određuje kako će se agregirati podaci pri računanju vrednosti mere.

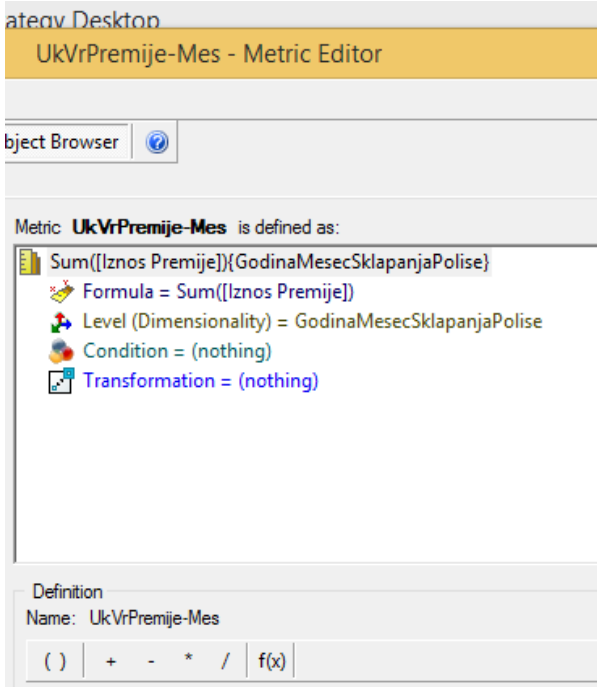
Filtriranje mere (Filtering)

Parametar Filtriranje određuje ponašanje mere (način njenog računanja) u odnosu na filter definisan u izveštaju (report filter).

Složene metrike/mere

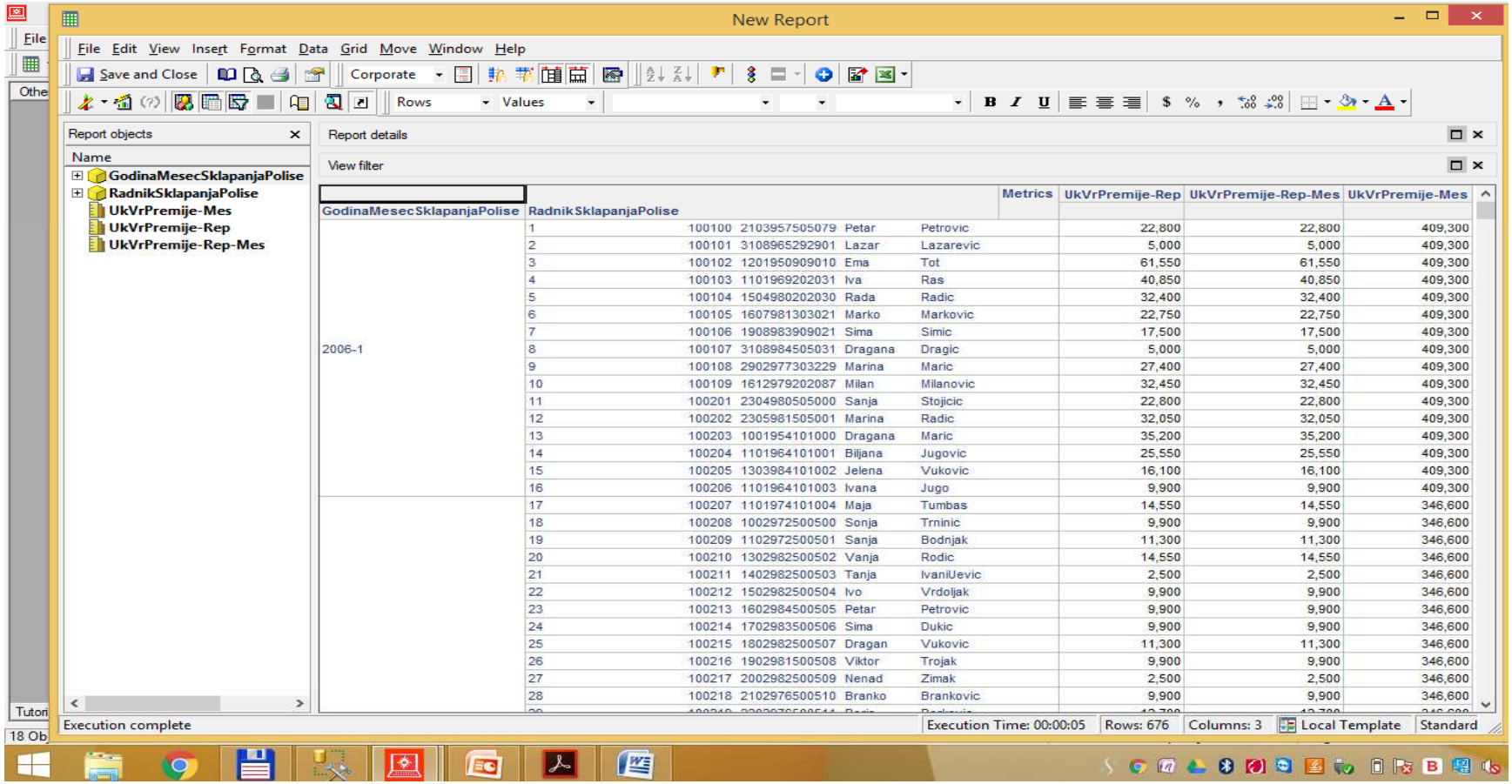
Komponenta mere – NIVO – parametar - Cilj (Target)





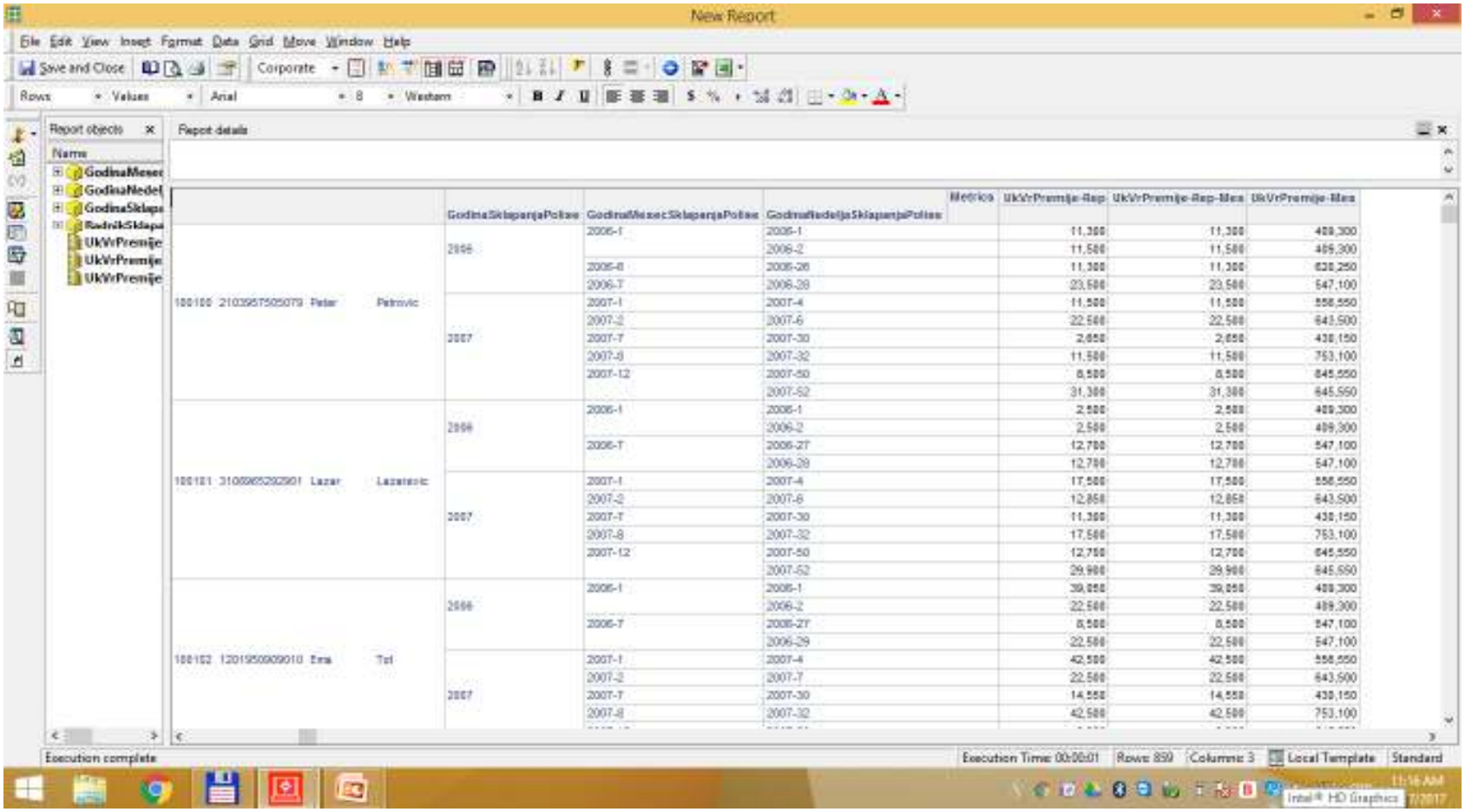
Složene metrike/mere

Komponenta mere – NIVO – parametar - Cilj (Target)



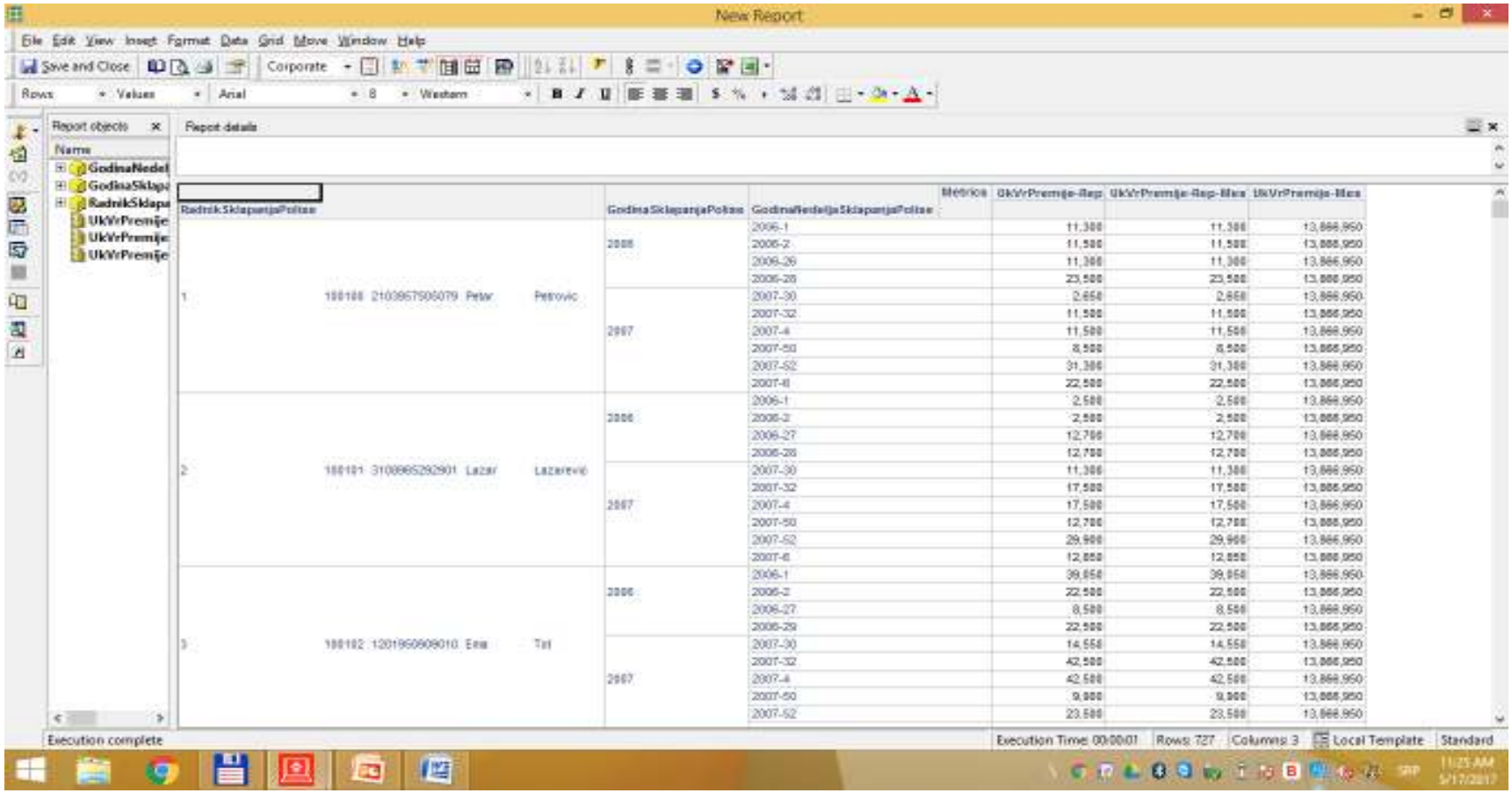
Složene metrike/mere

Komponenta mere – NIVO – parametar - Cilj (Target)



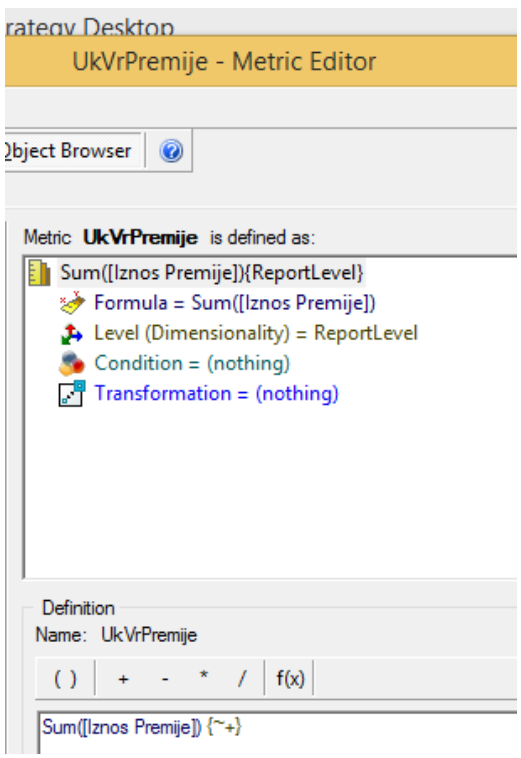
Složene metrike/mere

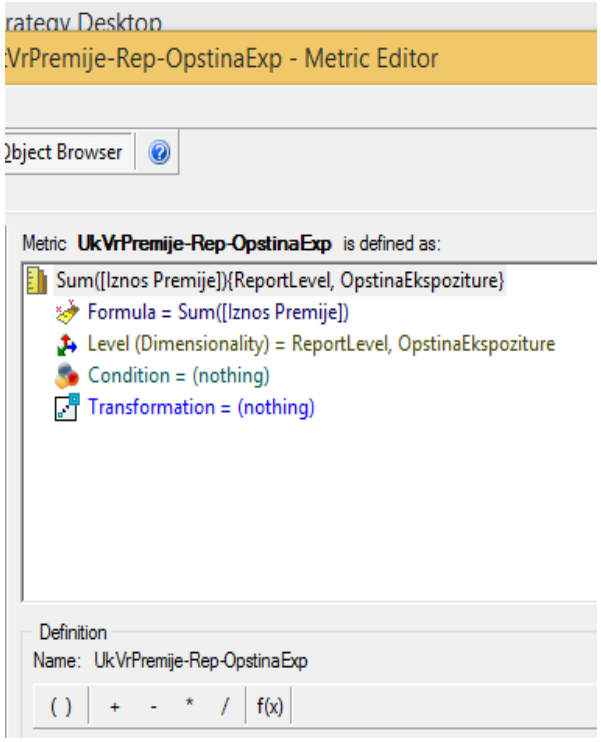
Komponenta mere – NIVO – parametar - Cilj (Target)

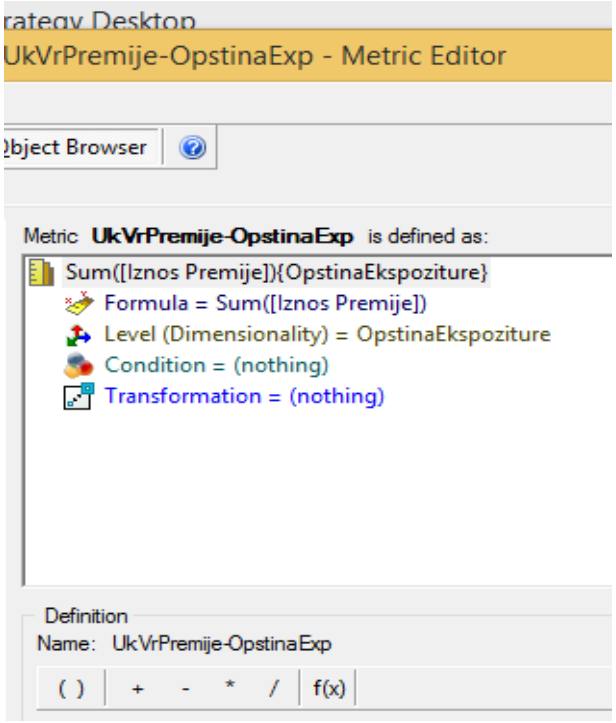


Složene metrike/mere

Komponenta mere – NIVO – parametar - Cilj (Target)

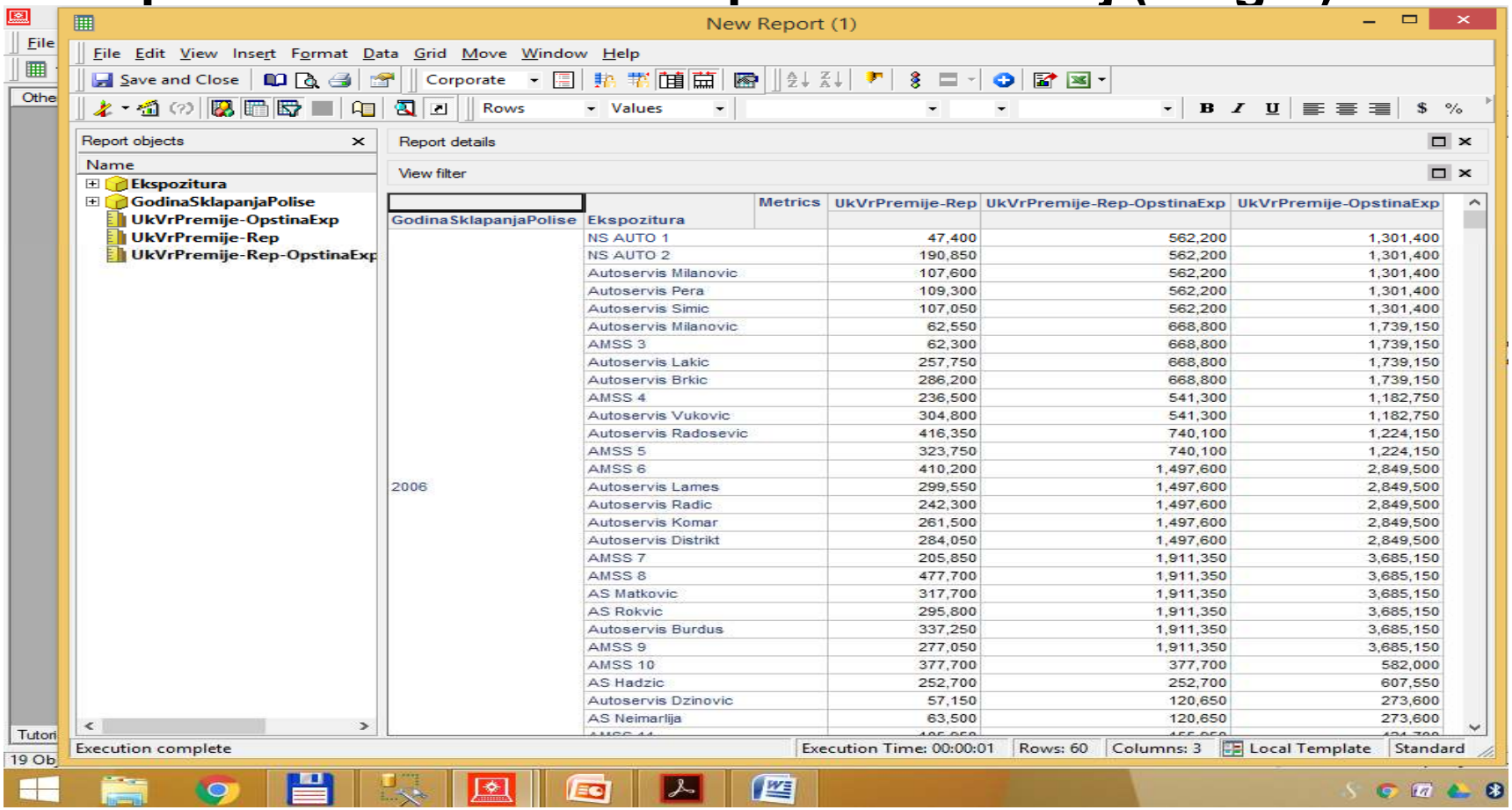






Složene metrike/mere

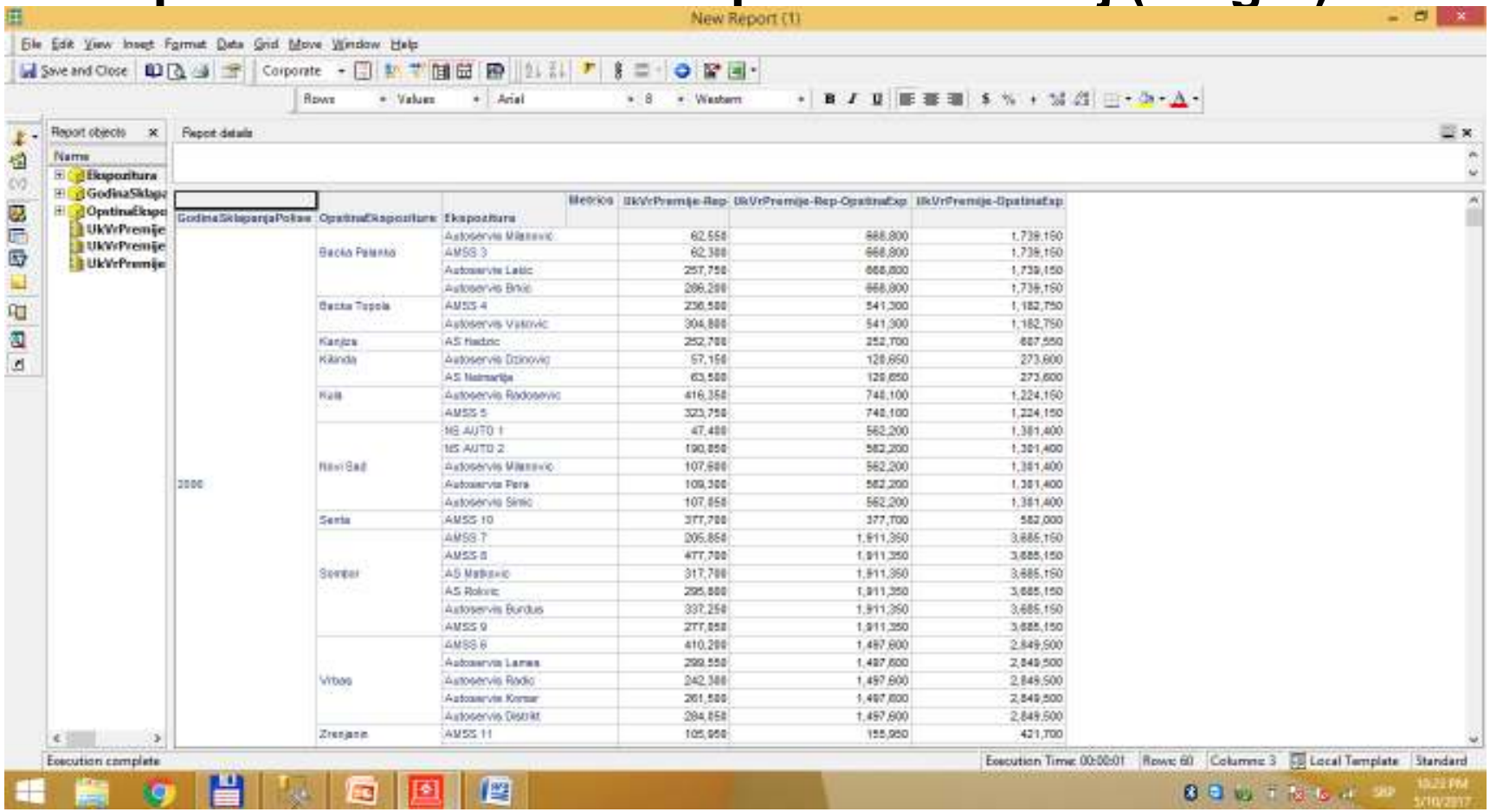
Komponenta mere – NIVO – parametar - Cilj (Target)



GodinaSklapanjaPolise	Ekspozitura	Metrics	UkVrPremije-Rep	UkVrPremije-Rep-OpstinaExp	UkVrPremije-OpstinaExp
2006	NS AUTO 1		47,400	562,200	1,301,400
	NS AUTO 2		190,850	562,200	1,301,400
	Autoservis Milanovic		107,600	562,200	1,301,400
	Autoservis Pera		109,300	562,200	1,301,400
	Autoservis Simic		107,050	562,200	1,301,400
	Autoservis Milanovic		62,550	668,800	1,739,150
	AMSS 3		62,300	668,800	1,739,150
	Autoservis Lakic		257,750	668,800	1,739,150
	Autoservis Brkic		286,200	668,800	1,739,150
	AMSS 4		236,500	541,300	1,182,750
	Autoservis Vukovic		304,800	541,300	1,182,750
	Autoservis Radosevic		416,350	740,100	1,224,150
	AMSS 5		323,750	740,100	1,224,150
	AMSS 6		410,200	1,497,600	2,849,500
	Autoservis Lames		299,550	1,497,600	2,849,500
	Autoservis Radic		242,300	1,497,600	2,849,500
	Autoservis Komar		261,500	1,497,600	2,849,500
	Autoservis Distrikt		284,050	1,497,600	2,849,500
	AMSS 7		205,850	1,911,350	3,685,150
	AMSS 8		477,700	1,911,350	3,685,150
	AS Matkovic		317,700	1,911,350	3,685,150
	AS Rokvic		295,800	1,911,350	3,685,150
	Autoservis Burdus		337,250	1,911,350	3,685,150
	AMSS 9		277,050	1,911,350	3,685,150
	AMSS 10		377,700	377,700	582,000
	AS Hadzic		252,700	252,700	607,550
	Autoservis Dzinovic		57,150	120,650	273,600
	AS Neimarlija		63,500	120,650	273,600

Složene metrike/mere

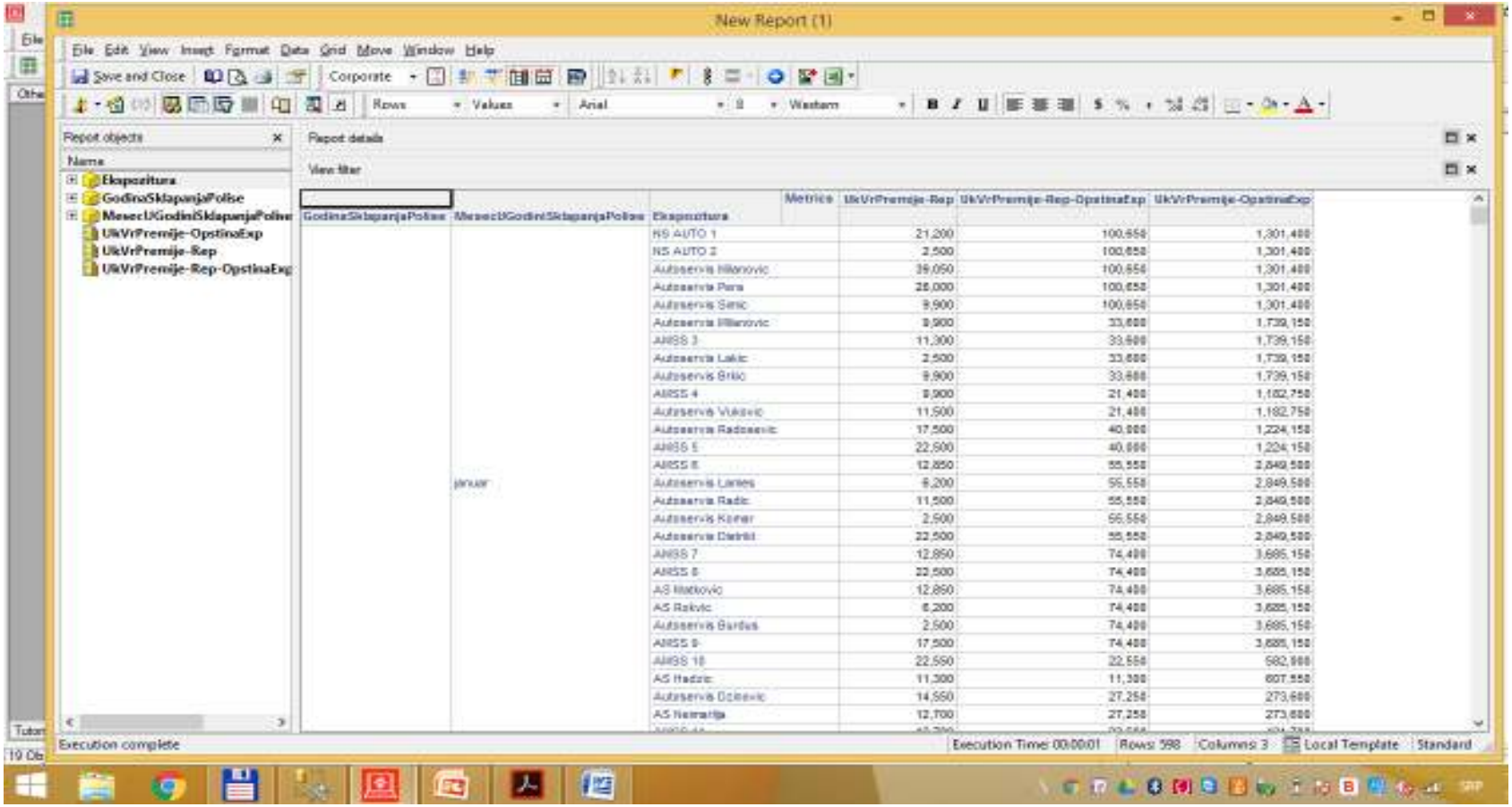
Komponenta mere – NIVO – parametar - Cilj (Target)



GodinaSklapanjaPolise	OpstinaEkspozitura	Ekspozitura	Metrika	UkVrPremije-Rep	UkVrPremije-Rep-OpstinaExp	UkVrPremije-OpstinaExp
2000	Backa Palanka	Autoservis Milanovic		62,550	668,800	1,739,150
		AMSS 3		62,300	668,800	1,739,150
		Autoservis Lasic		257,750	668,800	1,739,150
		Autoservis Brkic		286,200	668,800	1,739,150
	Backa Topola	AMSS 4		236,500	541,300	1,182,750
		Autoservis Vukovic		304,800	541,300	1,182,750
	Kanjiza	AS Hadzic		252,700	252,700	607,550
	Kikinda	Autoservis Dzinovic		57,150	128,650	273,600
		AS Nemanja		63,500	128,650	273,600
	Kula	Autoservis Radosevic		416,350	748,100	1,224,150
		AMSS 5		323,750	748,100	1,224,150
	Novi Sad	NS AUTO 1		47,400	562,200	1,381,400
		NS AUTO 2		190,850	562,200	1,381,400
		Autoservis Milanovic		107,600	562,200	1,381,400
		Autoservis Pera		109,300	562,200	1,381,400
		Autoservis Sinic		107,650	562,200	1,381,400
	Senta	AMSS 10		377,700	377,700	582,000
	Sombor	AMSS 7		205,850	1,911,350	3,685,150
		AMSS 8		477,700	1,911,350	3,685,150
		AS Malkovic		317,700	1,911,350	3,685,150
		AS Rokovic		295,800	1,911,350	3,685,150
		Autoservis Bundus		337,250	1,911,350	3,685,150
		AMSS 9		277,850	1,911,350	3,685,150
	Vrbas	AMSS 6		410,200	1,497,600	2,849,500
		Autoservis Lamas		299,550	1,497,600	2,849,500
		Autoservis Radic		242,300	1,497,600	2,849,500
		Autoservis Kovac		261,500	1,497,600	2,849,500
		Autoservis Distrikt		284,650	1,497,600	2,849,500
	Zrenjanin	AMSS 11		105,950	155,950	421,700

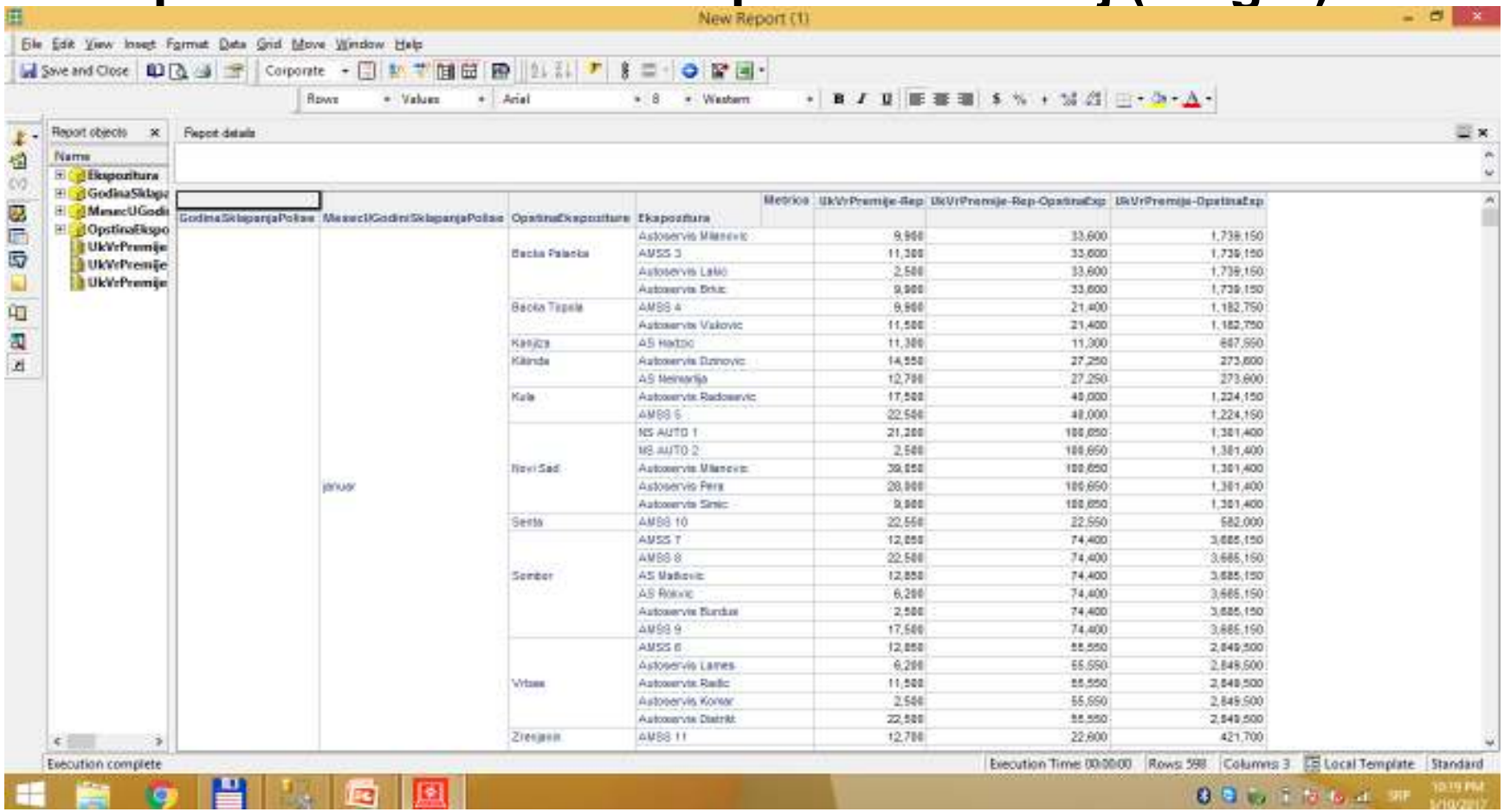
Složene metrike/mere

Komponenta mere – NIVO – parametar - Cilj (Target)



Složene metrike/mere

Komponenta mere – NIVO – parametar - Cilj (Target)



Složene metrike/mere

Komponenta mere – NIVO – parametar - Grupisanje (Grouping)

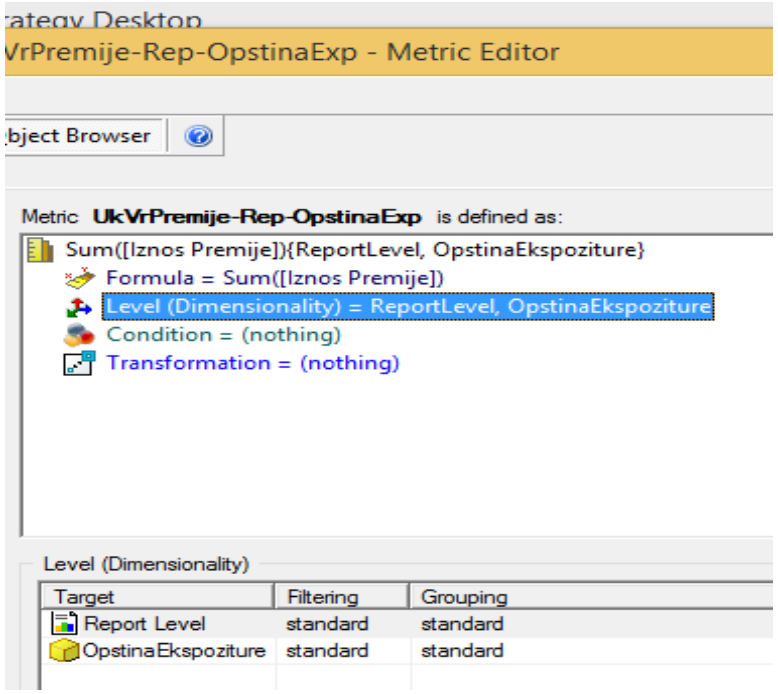
Grupisanjem se određuje kako će se agregirati podaci pri računanju vrednosti mere.

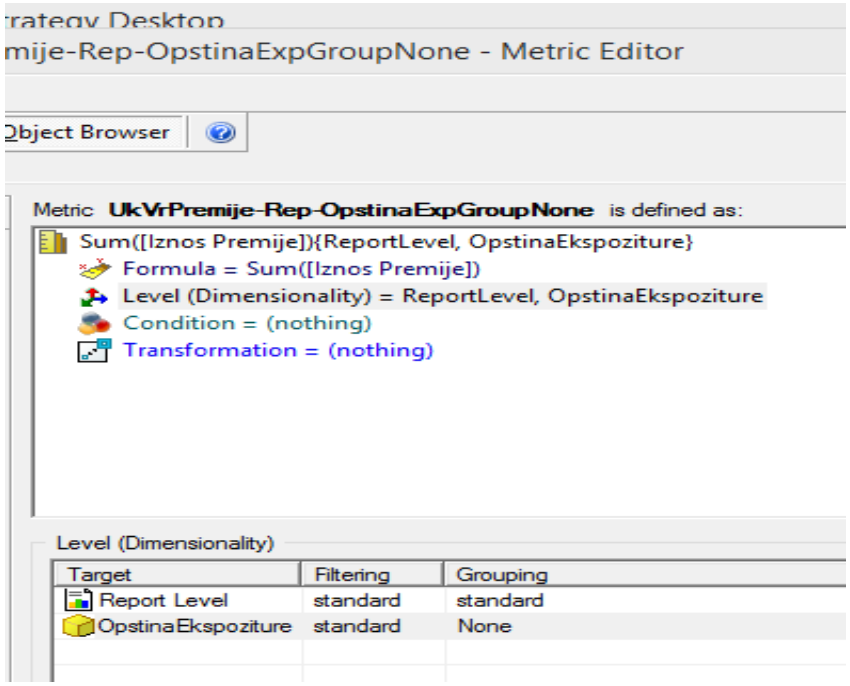
Opcije grupisanja su:

- Standardno (Standard) – podaci se grupišu na nivou atributa specificiranog u cilju (target)
- Bez (None) – Isključuje ciljne atribute (i njihovu decu) iz grupisanja. Ovakvo podešavanje izračunava jedan total za ciljni (target) atribut i svaki od njegovih podređenih atributa uključenih u templejt izveštaja.

Složene metrike/mere

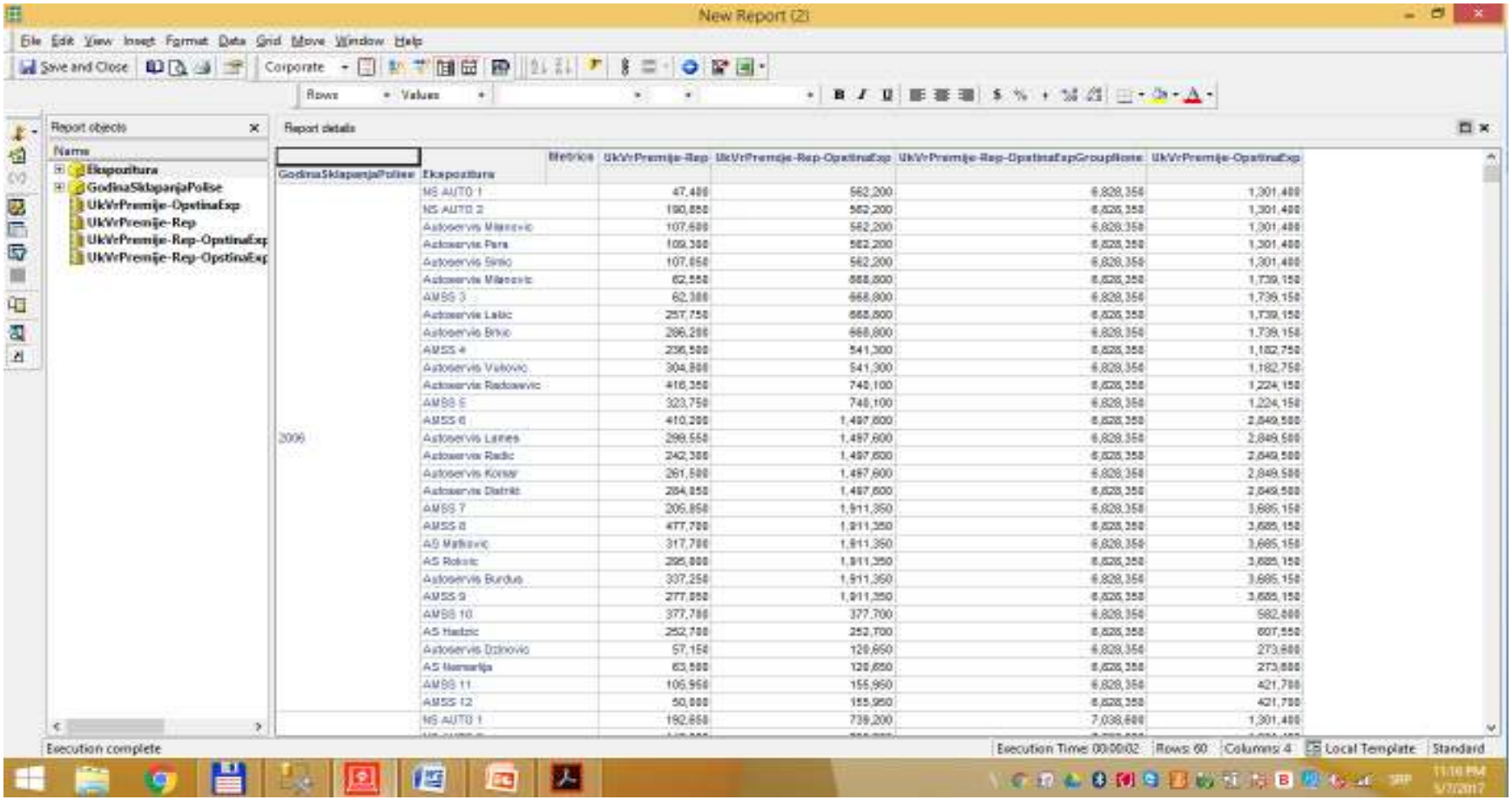
Komponenta mere – NIVO – parametar - Grupisanje (Grouping)





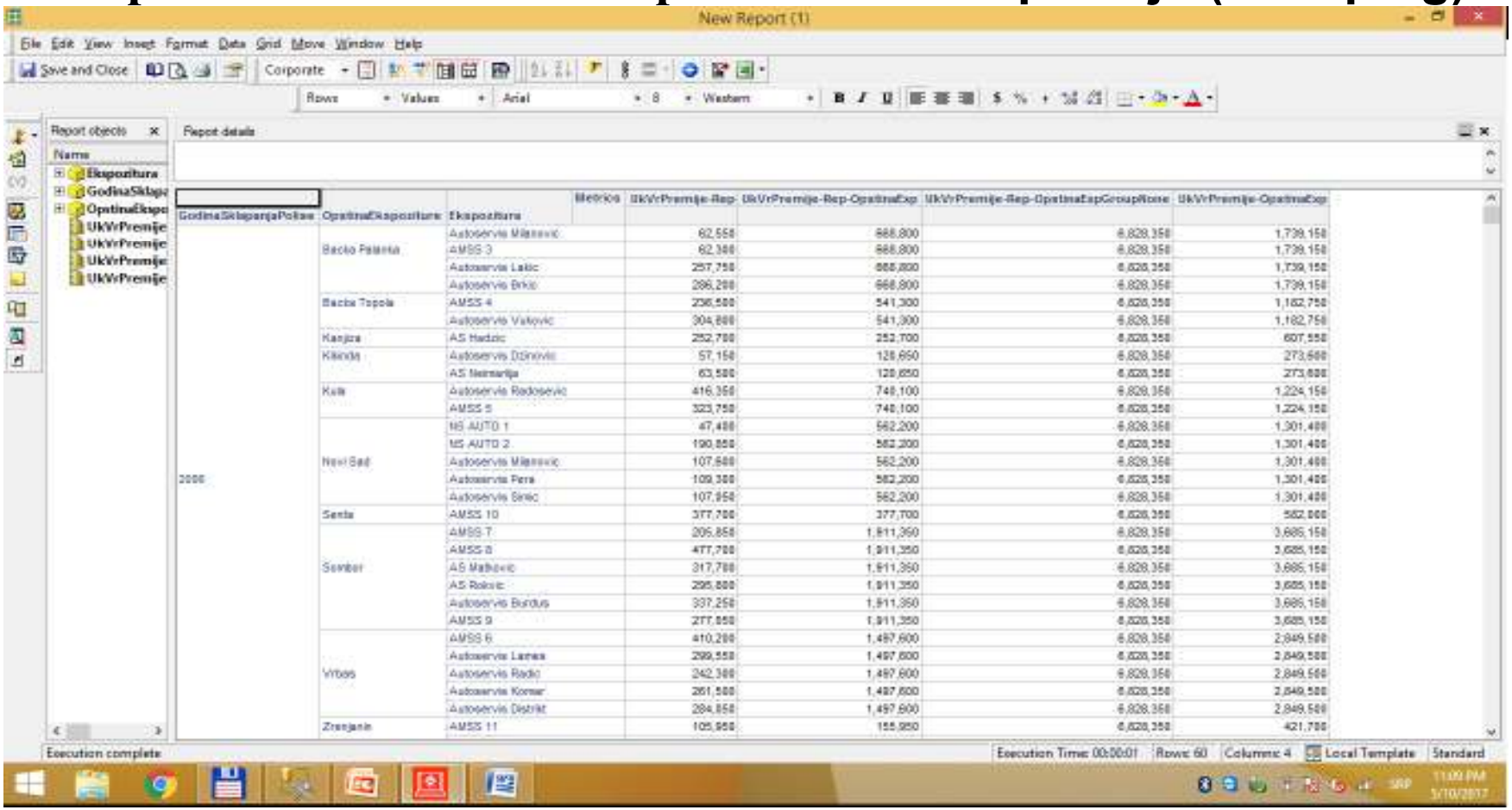
Složene metrike/mere

Komponenta mere – NIVO – parametar - Grupisanje (Grouping)



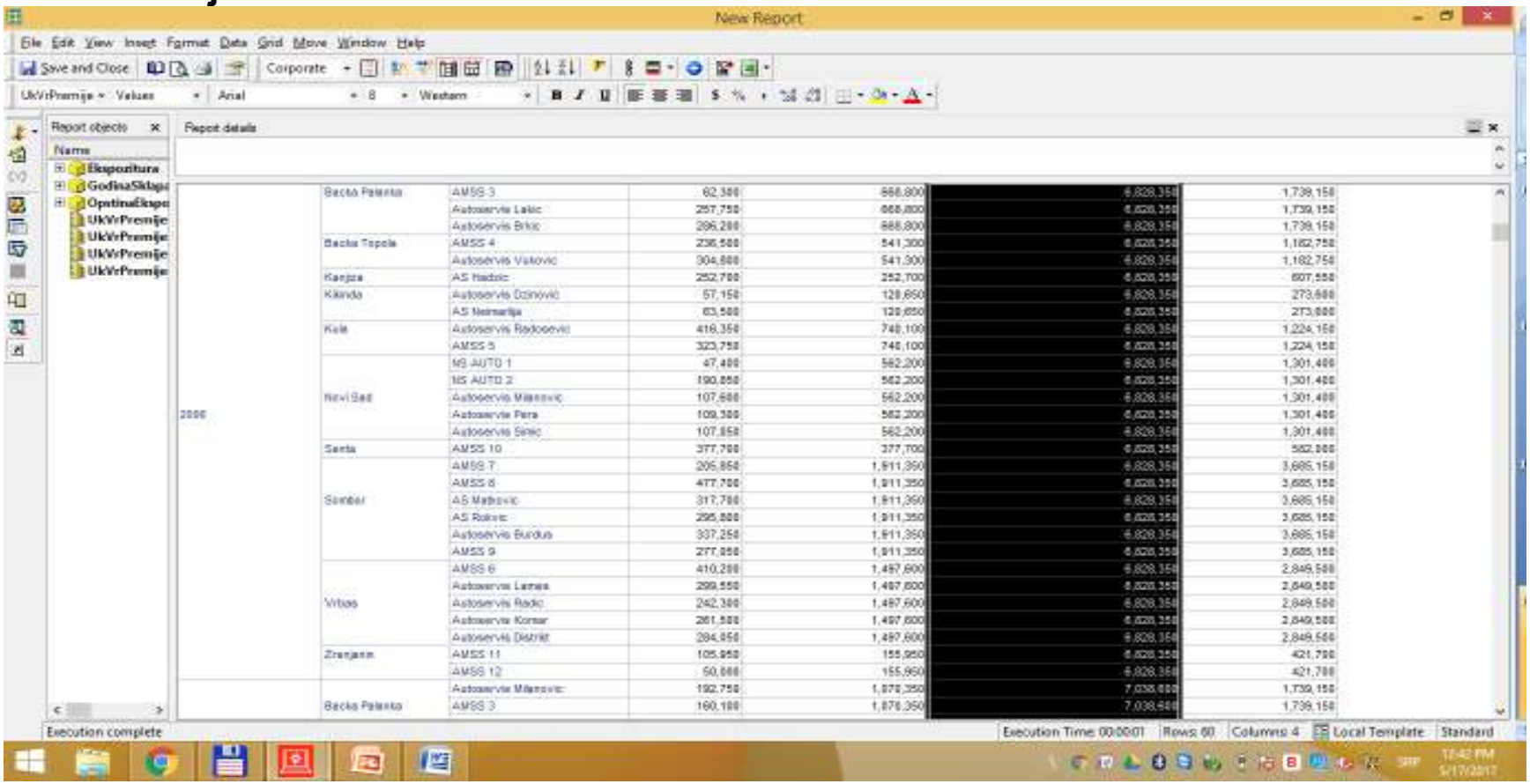
Složene metrike/mere

Komponenta mere – NIVO – parametar - Grupisanje (Grouping)



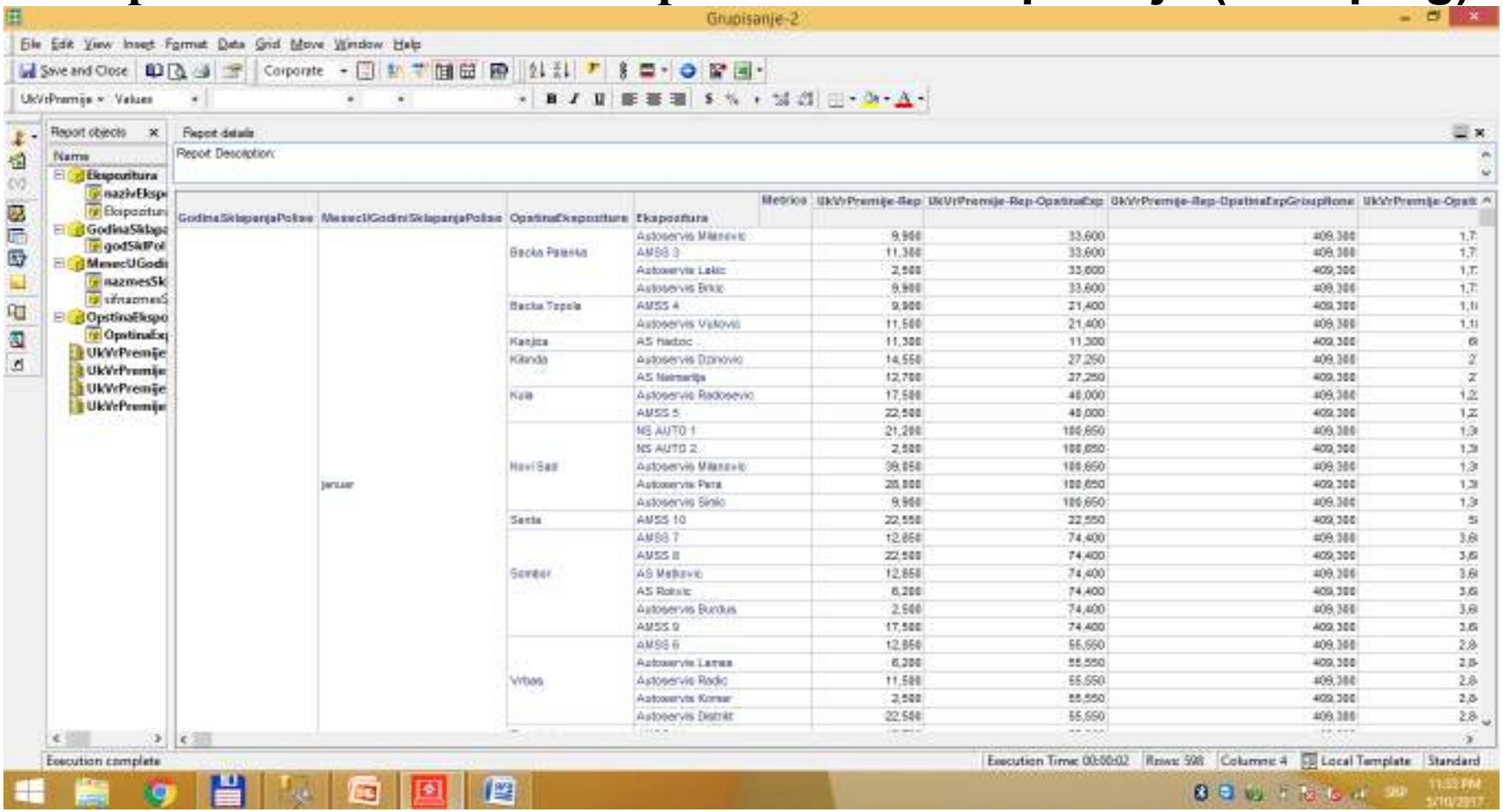
Složene metrike/mere

Komponenta mere – NIVO – parametar - Grupisanje (Grouping) –scroll prethonog izveštaja



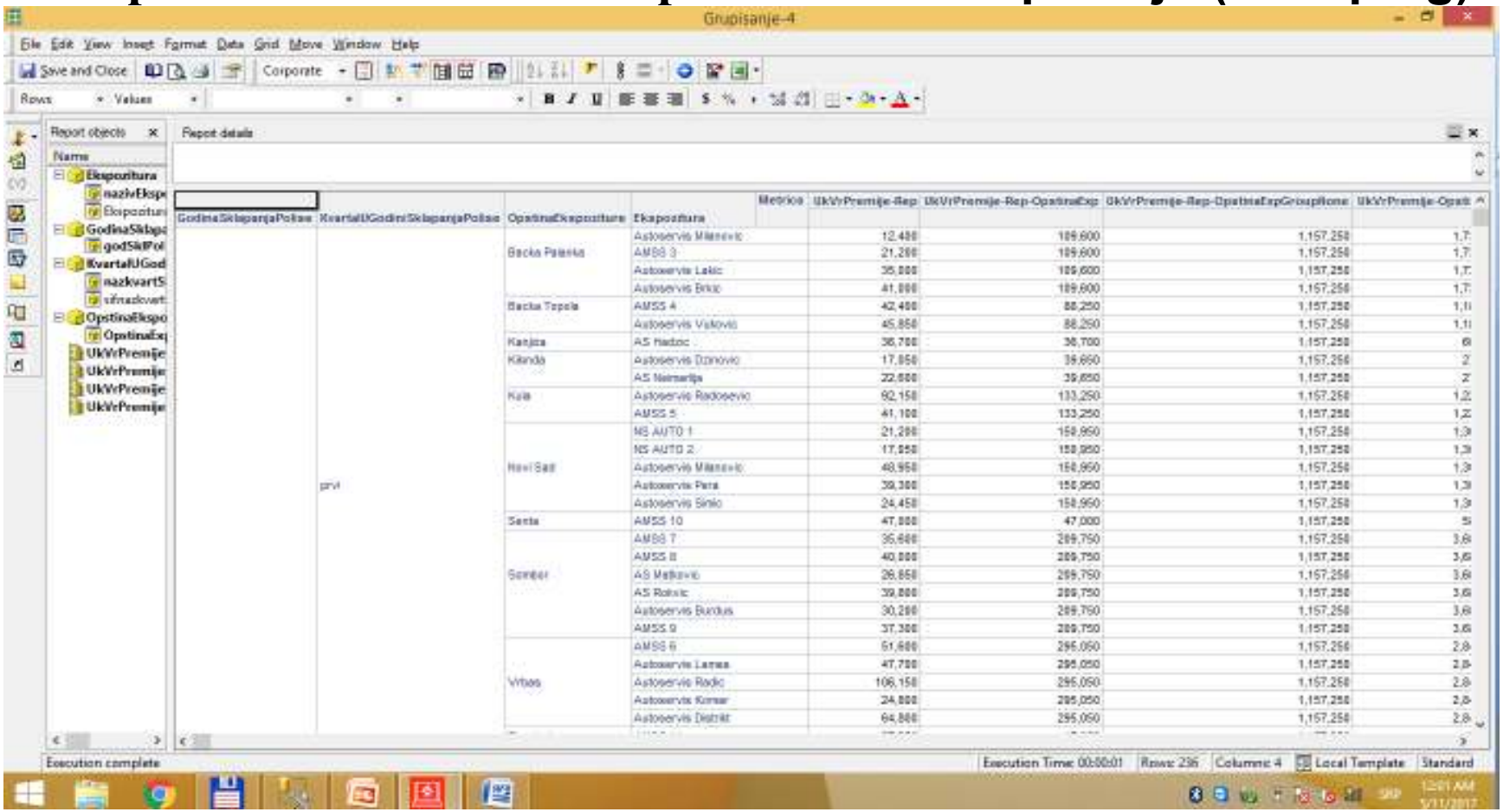
Složene metrike/mere

Komponenta mere – NIVO – parametar - Grupisanje (Grouping)



Složene metrike/mere

Komponenta mere – NIVO – parametar - Grupisanje (Grouping)



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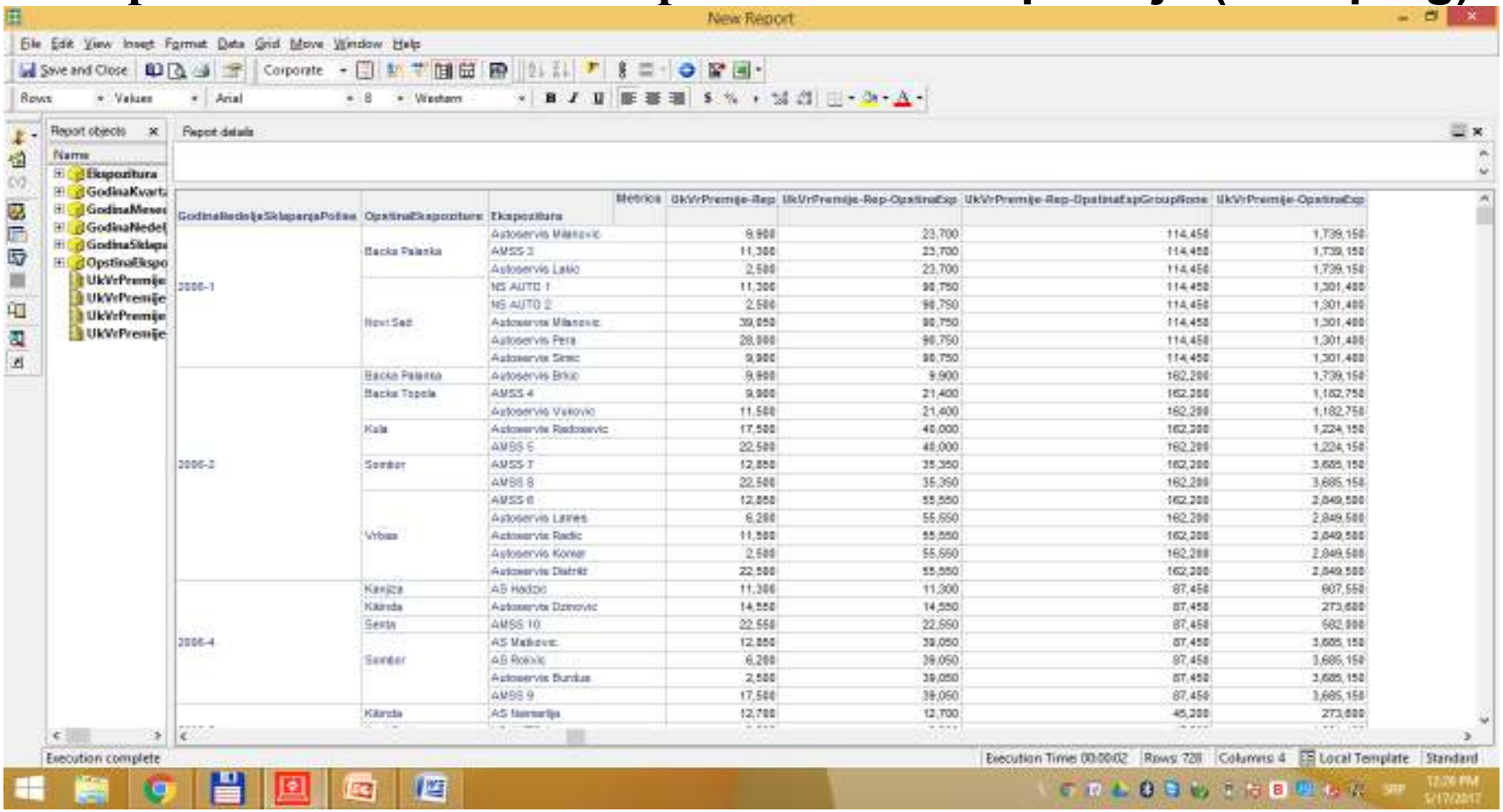
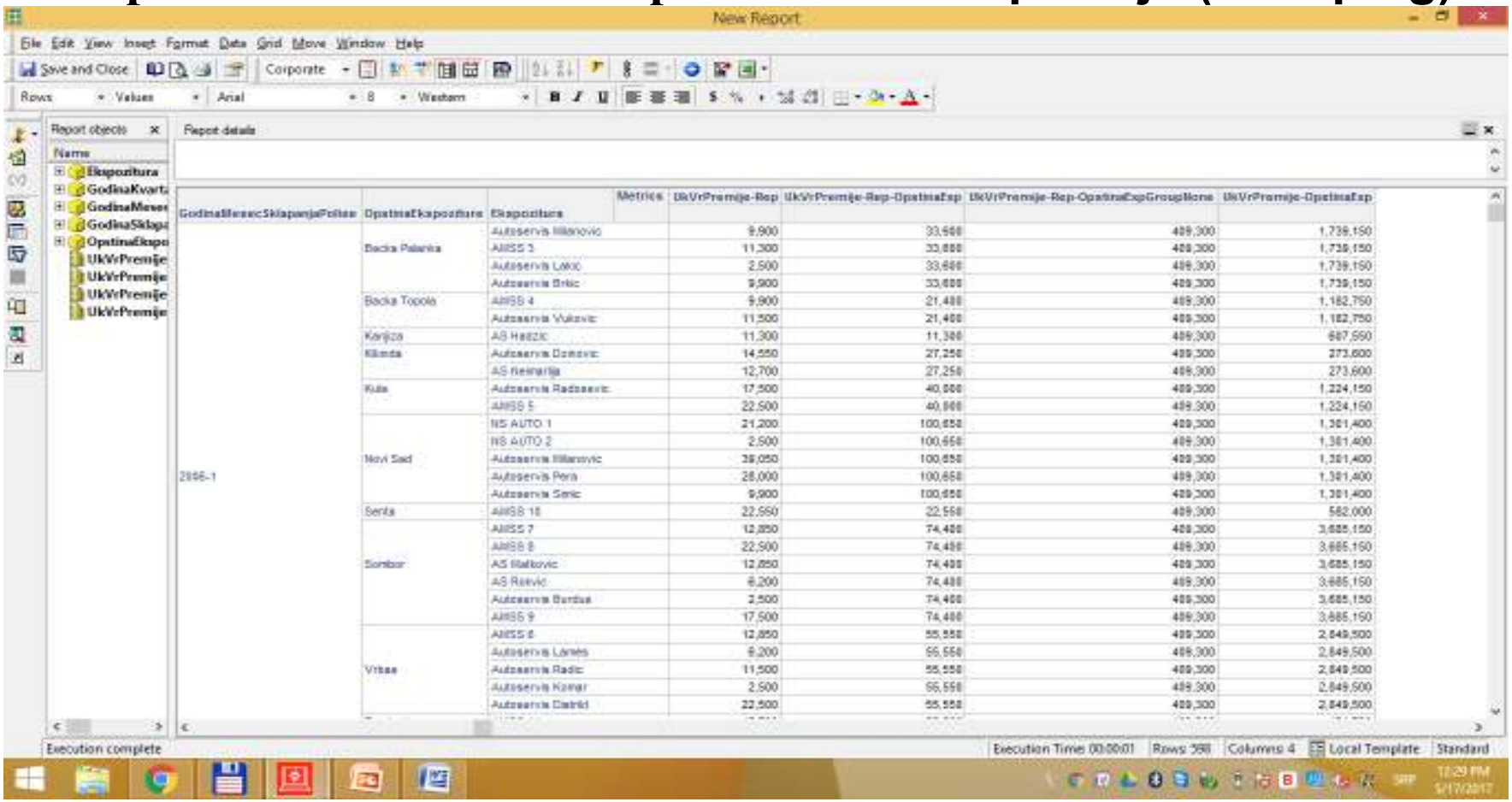
Komponenta mere – NIVO – parametar - Grupisanje (Grouping)



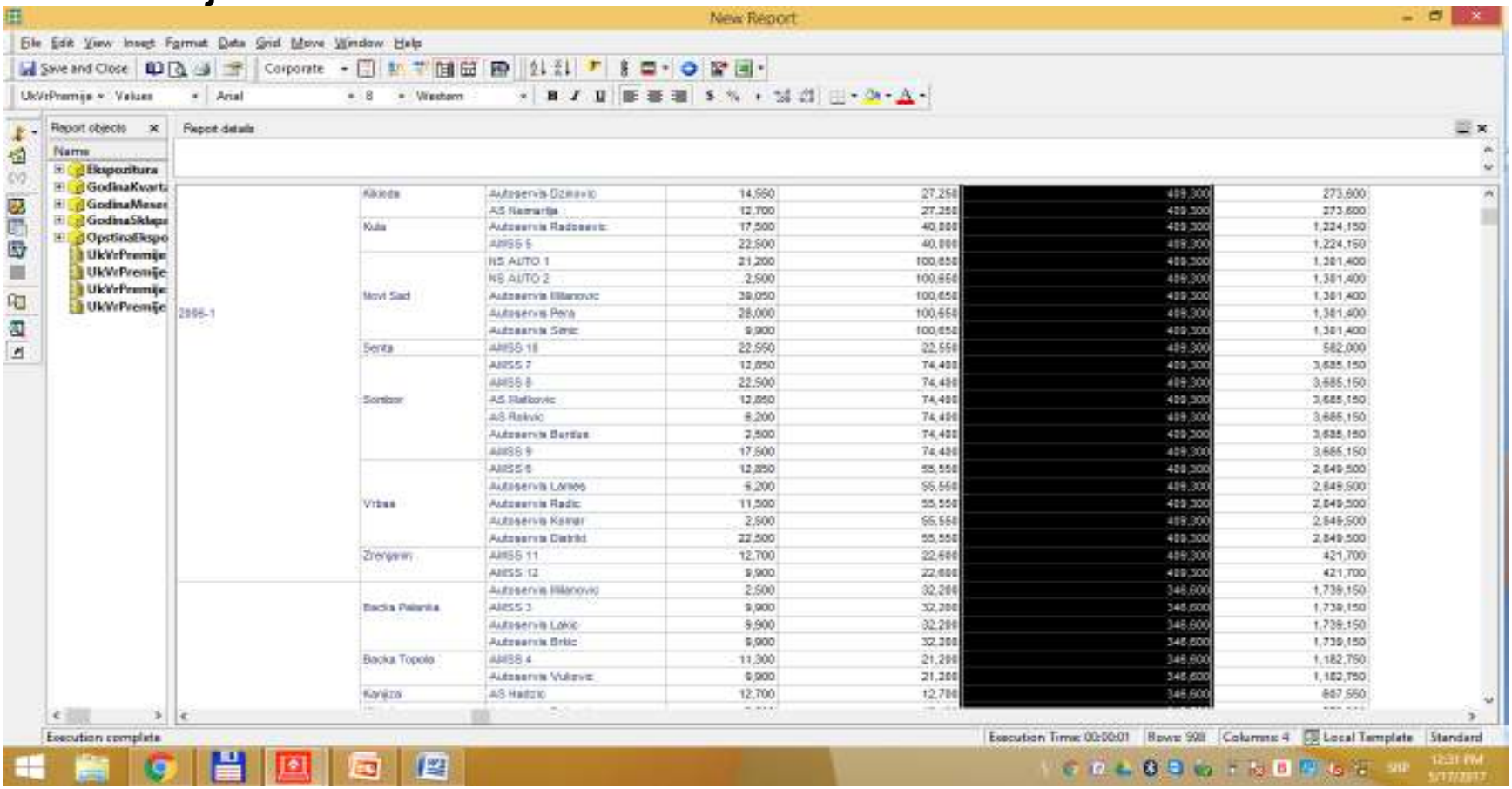
Složene metrike/mere

Komponenta mere – NIVO – parametar - Grupisanje (Grouping)



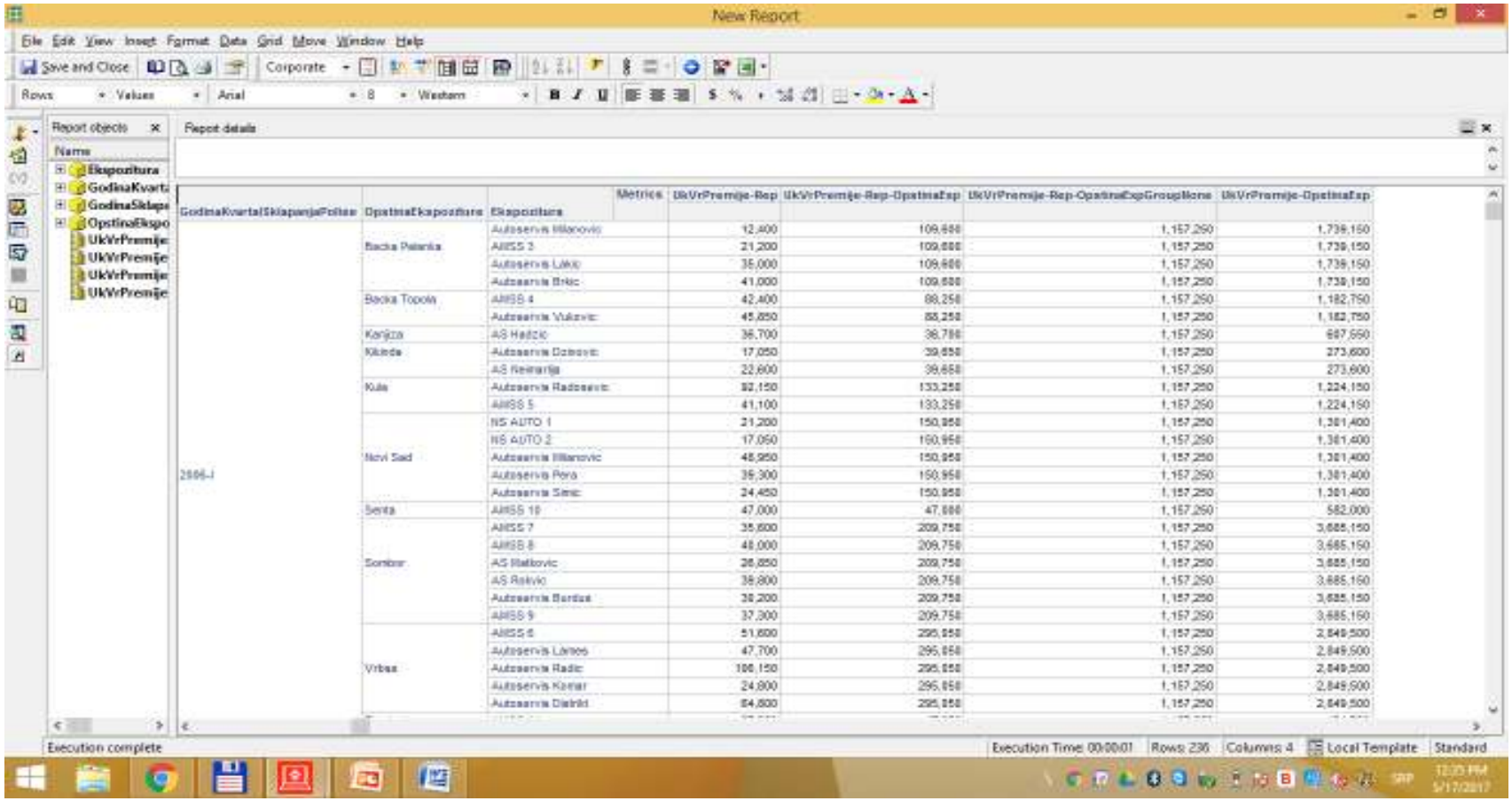
Složene metrike/mere

Komponenta mere – NIVO – parametar - Grupisanje (Grouping) –scroll prethonog izveštaja



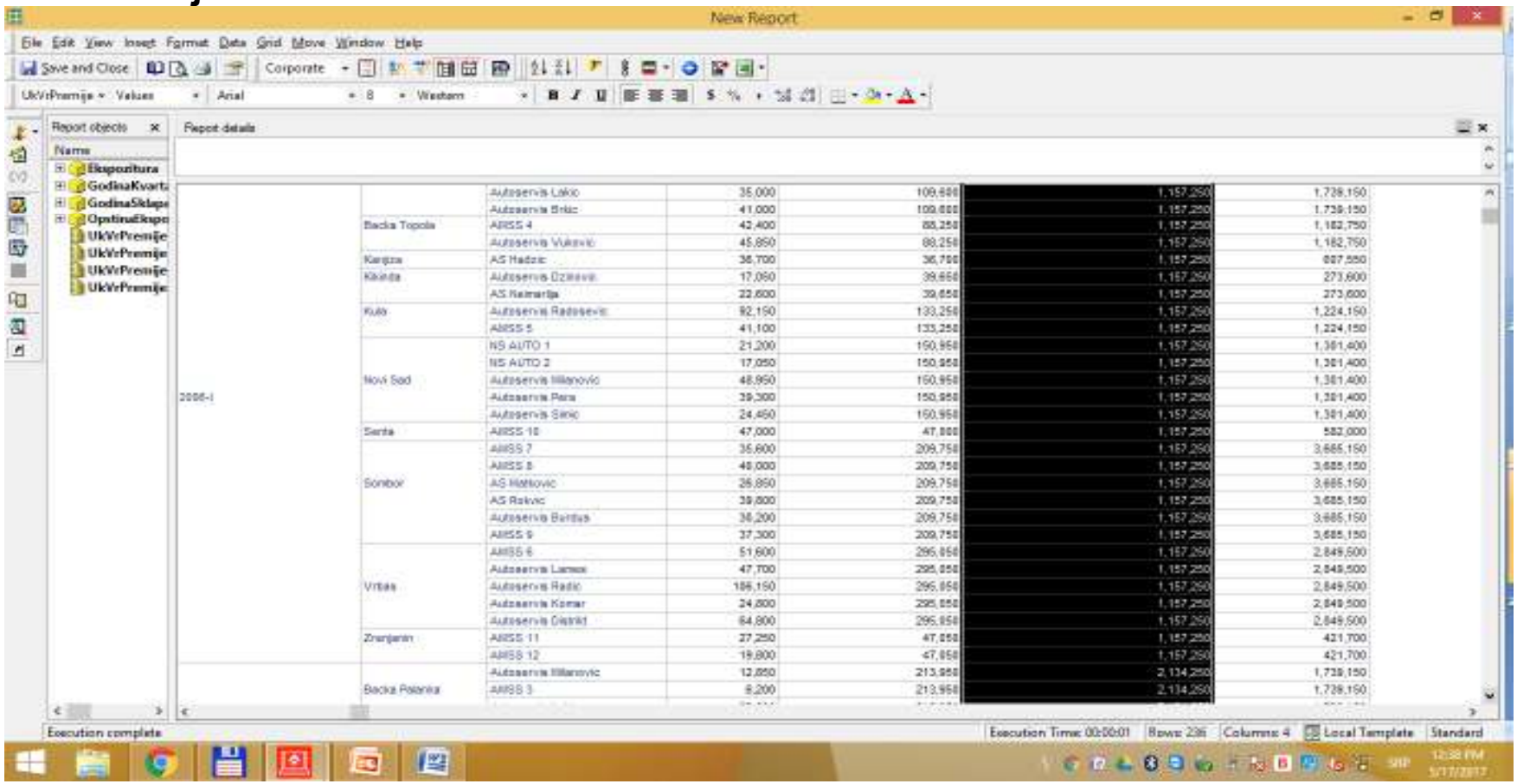
Složene metrike/mere

Komponenta mere – NIVO – parametar - Grupisanje (Grouping)



Složene metrike/mere

Komponenta mere – NIVO – parametar - Grupisanje (Grouping) –scroll prethonog izveštaja



Složene metrike/mere

Komponenta mere – NIVO – parametar – Filtriranje (Filtering)

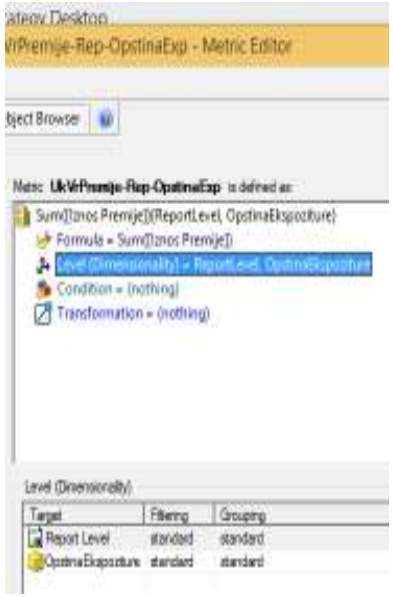
Parametar Filtriranje odreuje ponašanje mere (način njenog računanja) **u odnosu na filter definisan u izveštaju (report filter).**

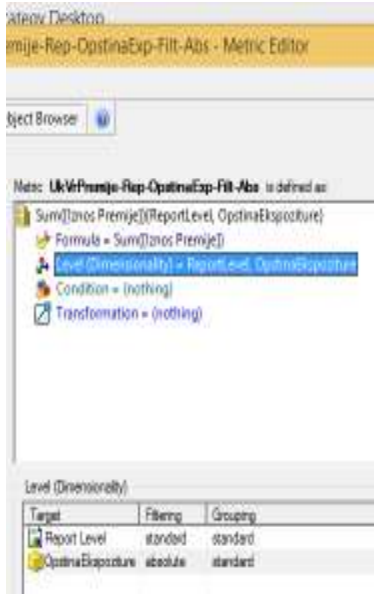
Razlikujemo 4 opcije filtriranja:

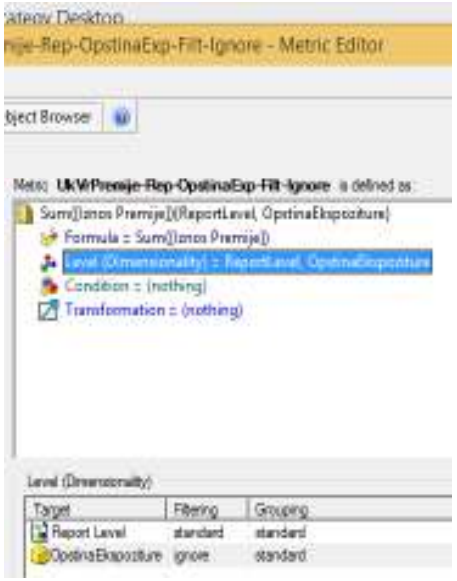
- Standard
- Absolute – Podiže nivo filtriranja na nivo ciljnog (target) atributa
- Ignore – Potpuno ignoriše svaki uslov filtriranja iz izveštaja
- None – Izračunavanje mere zavisi od tabele činjenica

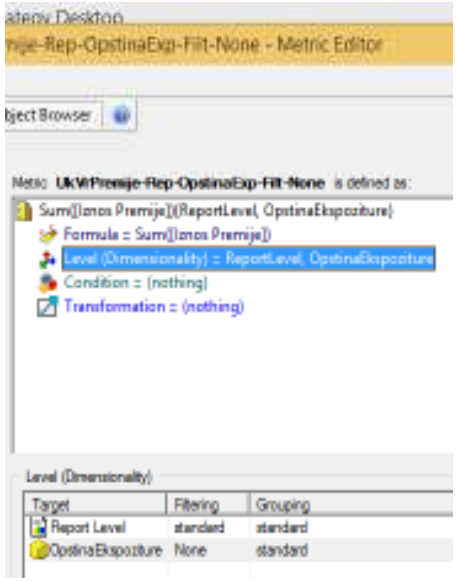
Složene metrike/mere

Komponenta mere – NIVO – parametar – Filtriranje (Filtering)



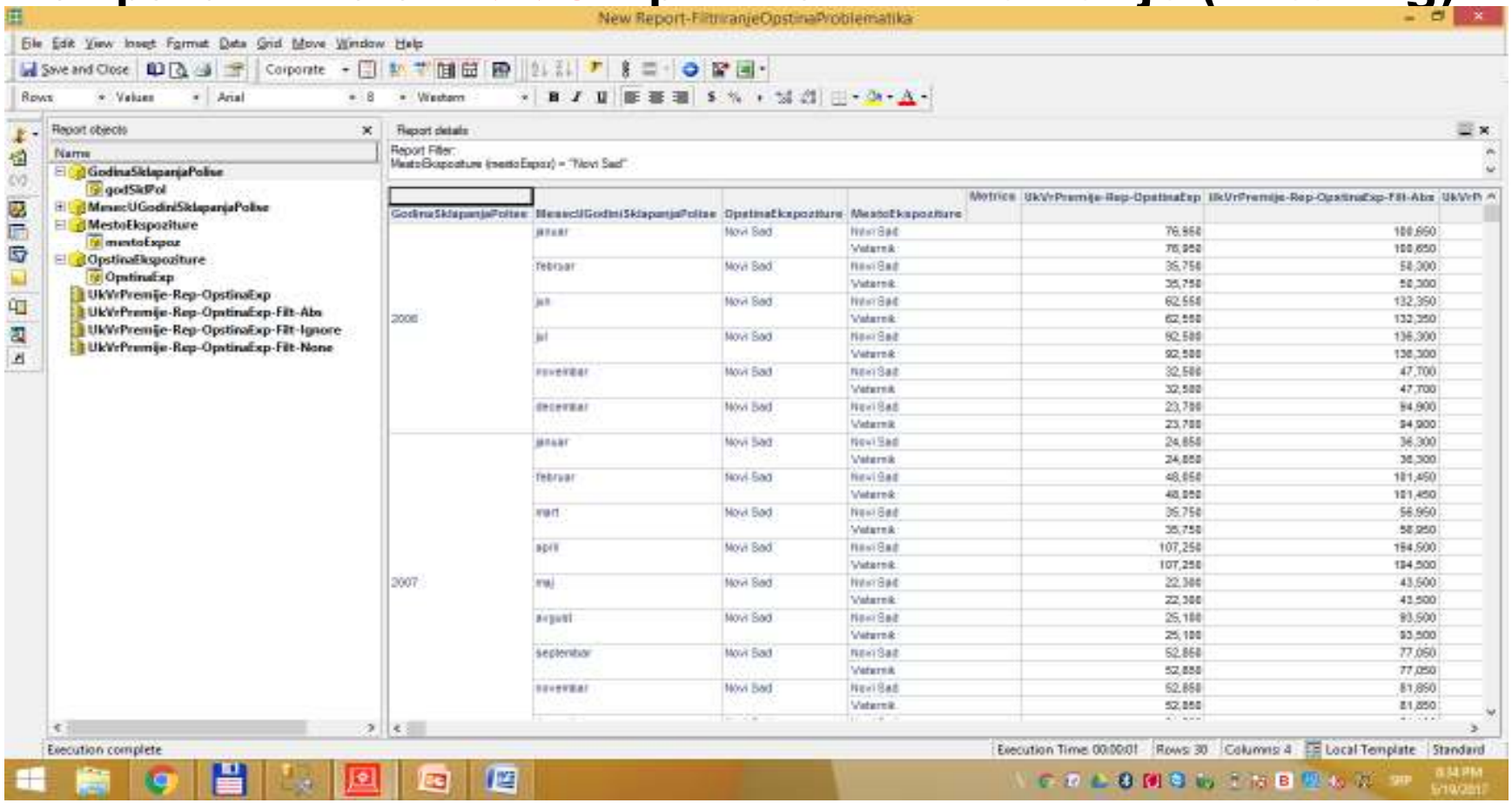






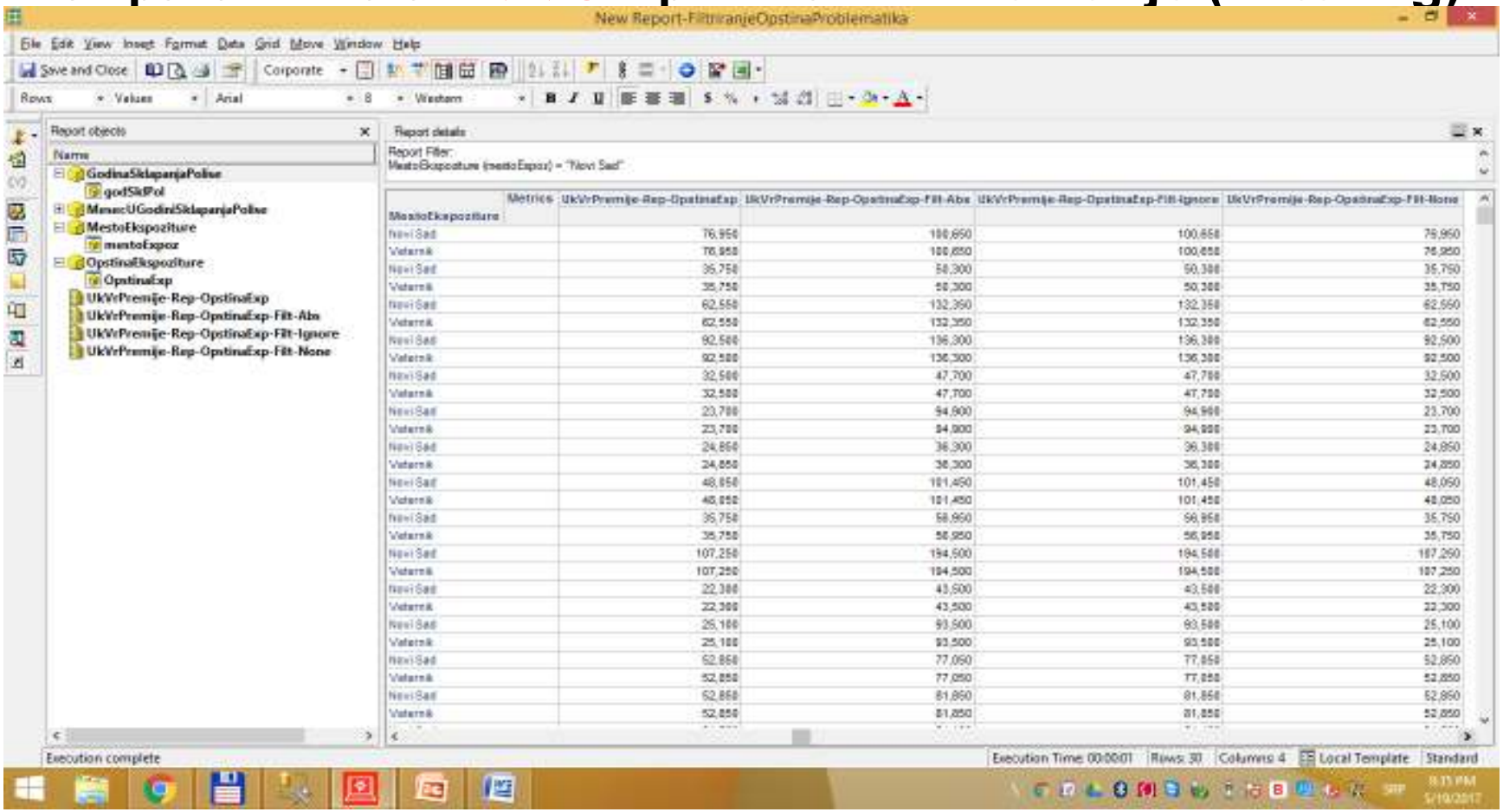
Složene metrike/mere

Komponenta mere – NIVO – parametar – Filtriranje (Filtering)



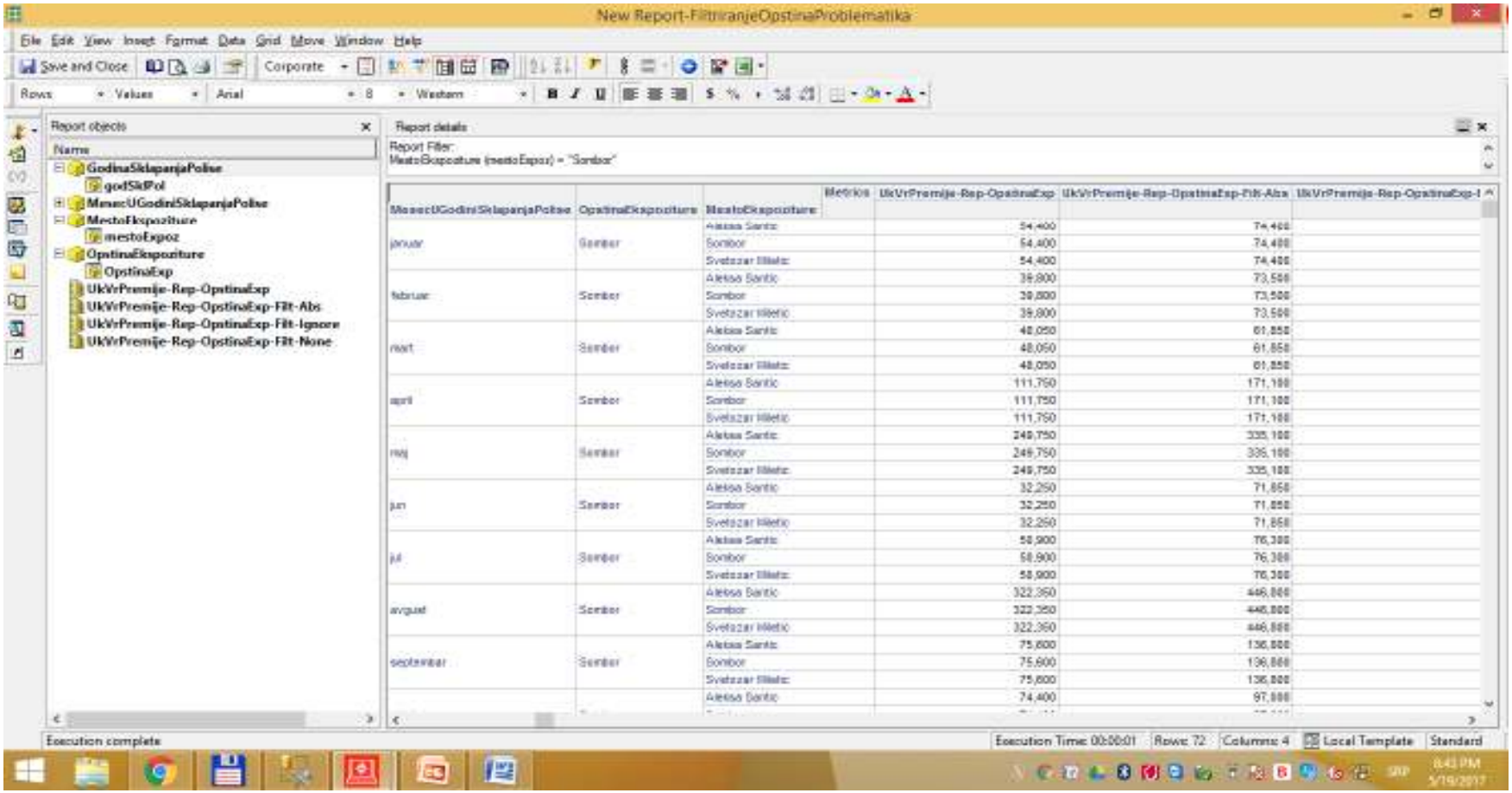
Složene metrike/mere

Komponenta mere – NIVO – parametar – Filtriranje (Filtering)



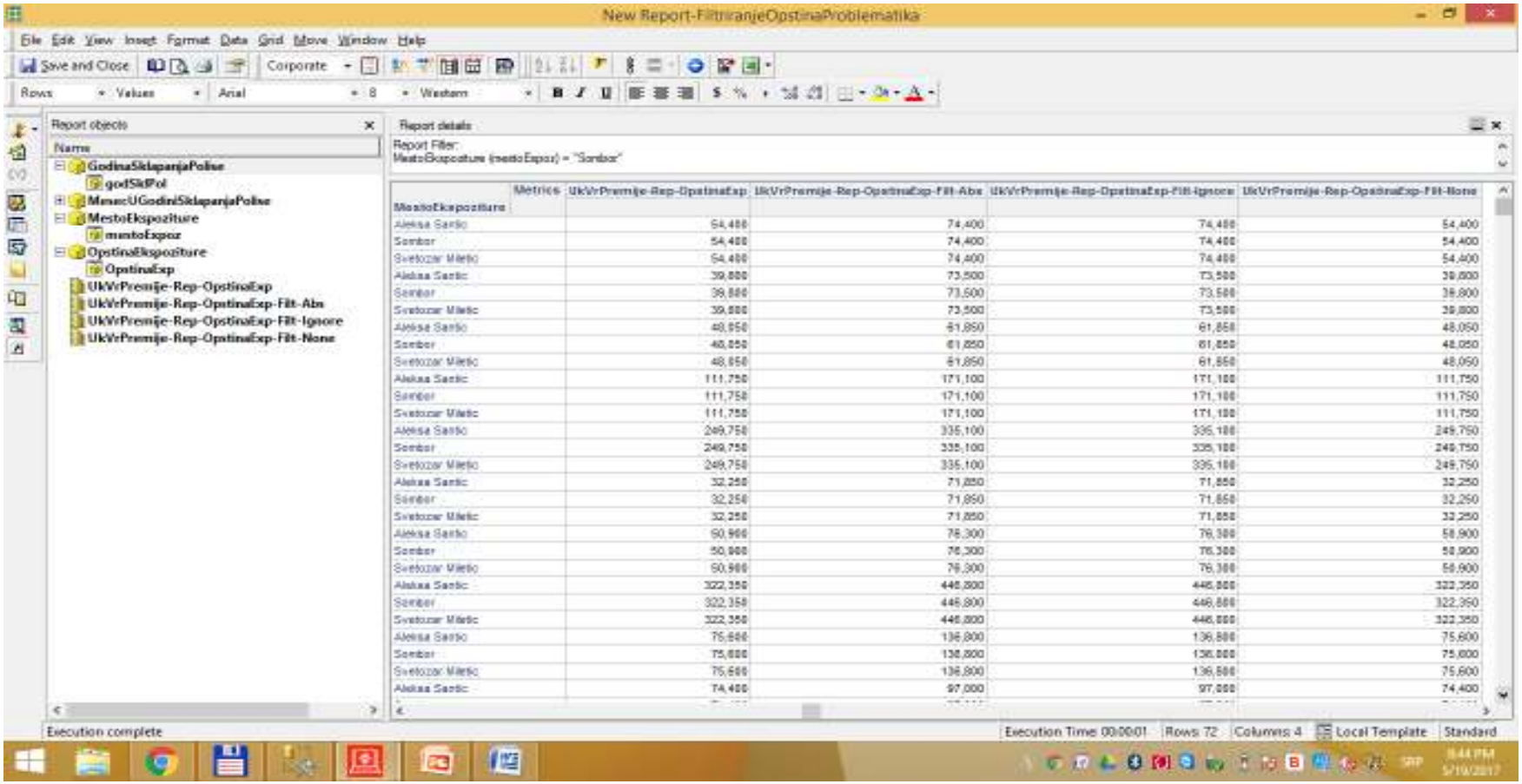
Složene metrike/mere

Komponenta mere – NIVO – parametar – Filtriranje (Filtering)



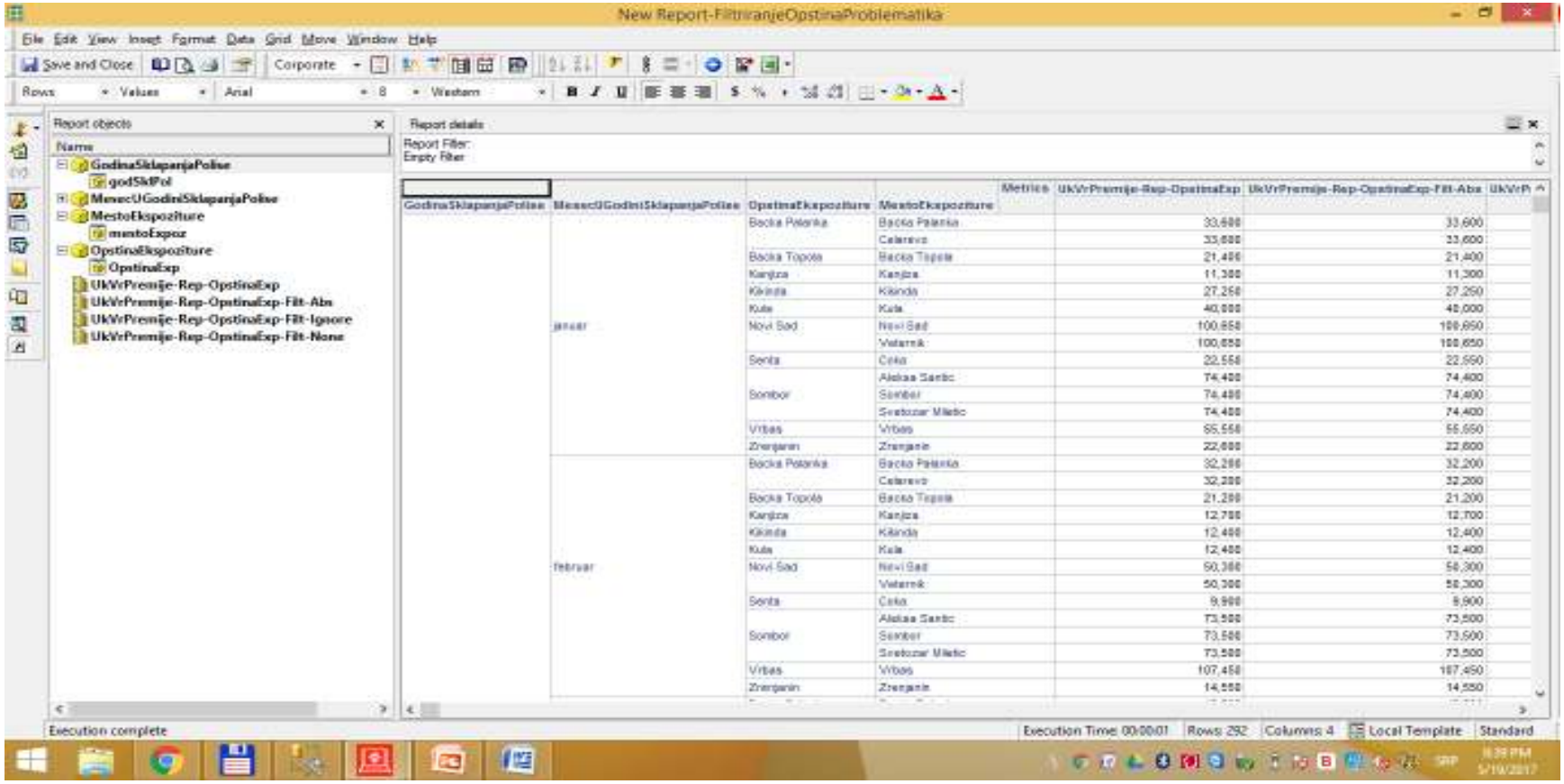
Složene metrike/mere

Komponenta mere – NIVO – parametar – Filtriranje (Filtering)



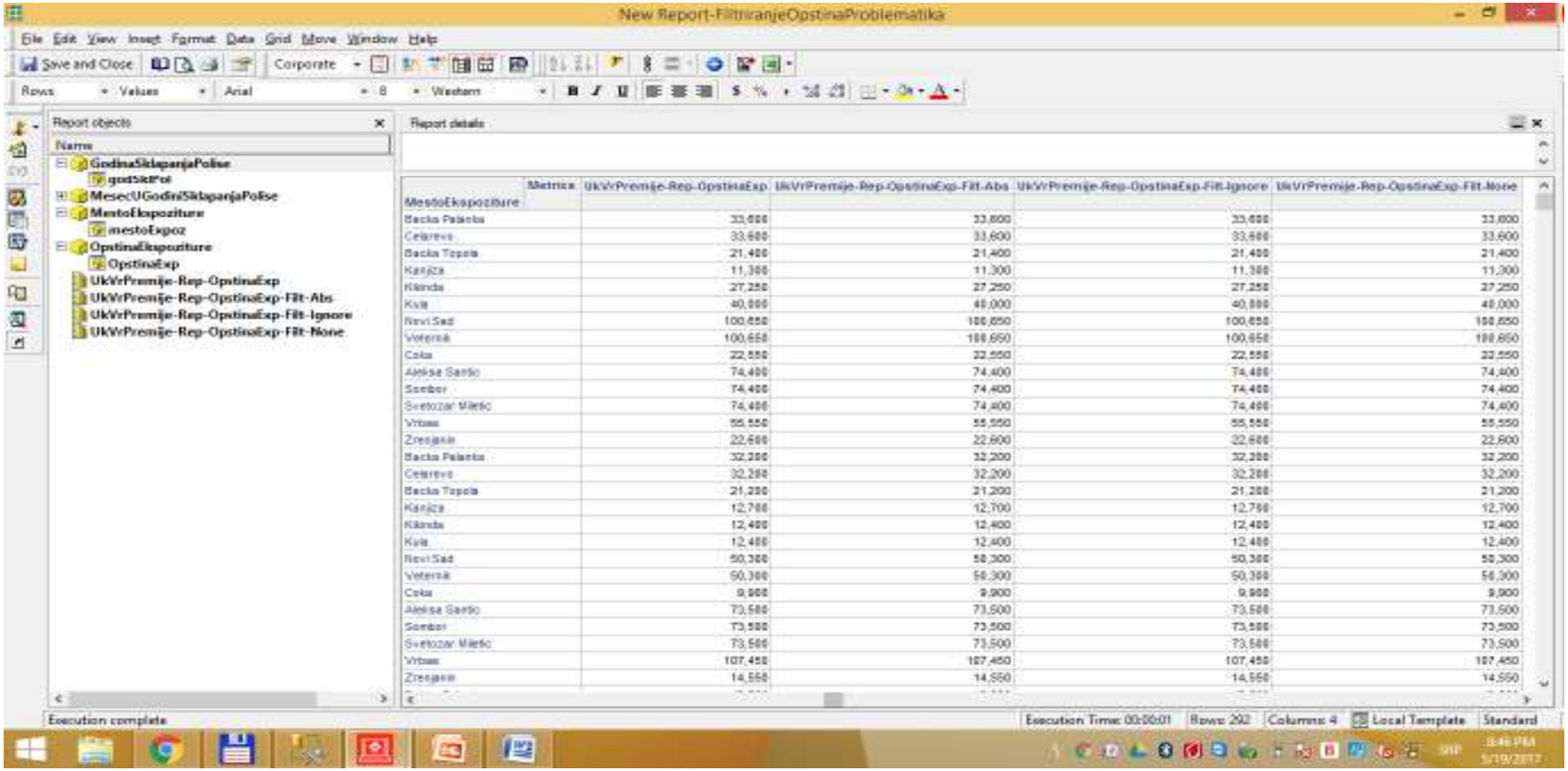
Složene metrike/mere

Komponenta mere – NIVO – parametar – Filtriranje (Filtering) – kada nema lokalnog filtera



Složene metrike/mere

Komponenta mere – NIVO – parametar – Filtriranje (Filtering) – kada nema lokalnog filtera



Složene metrike/mere

Komponente mera – USLOV

- **Neobavezna komponenta**

- **Definisanje uslova za neku meru znači da će se mera uvek izračunavati na osnovu podataka koji zadovoljavaju njen filter bez obzira na eventualne uslove definisane nad atributima iz iste hijerarhije u filteru reporta.**

Složene metrike/mere

Komponenta mere – USLOV

1. Stvara se filter objekat

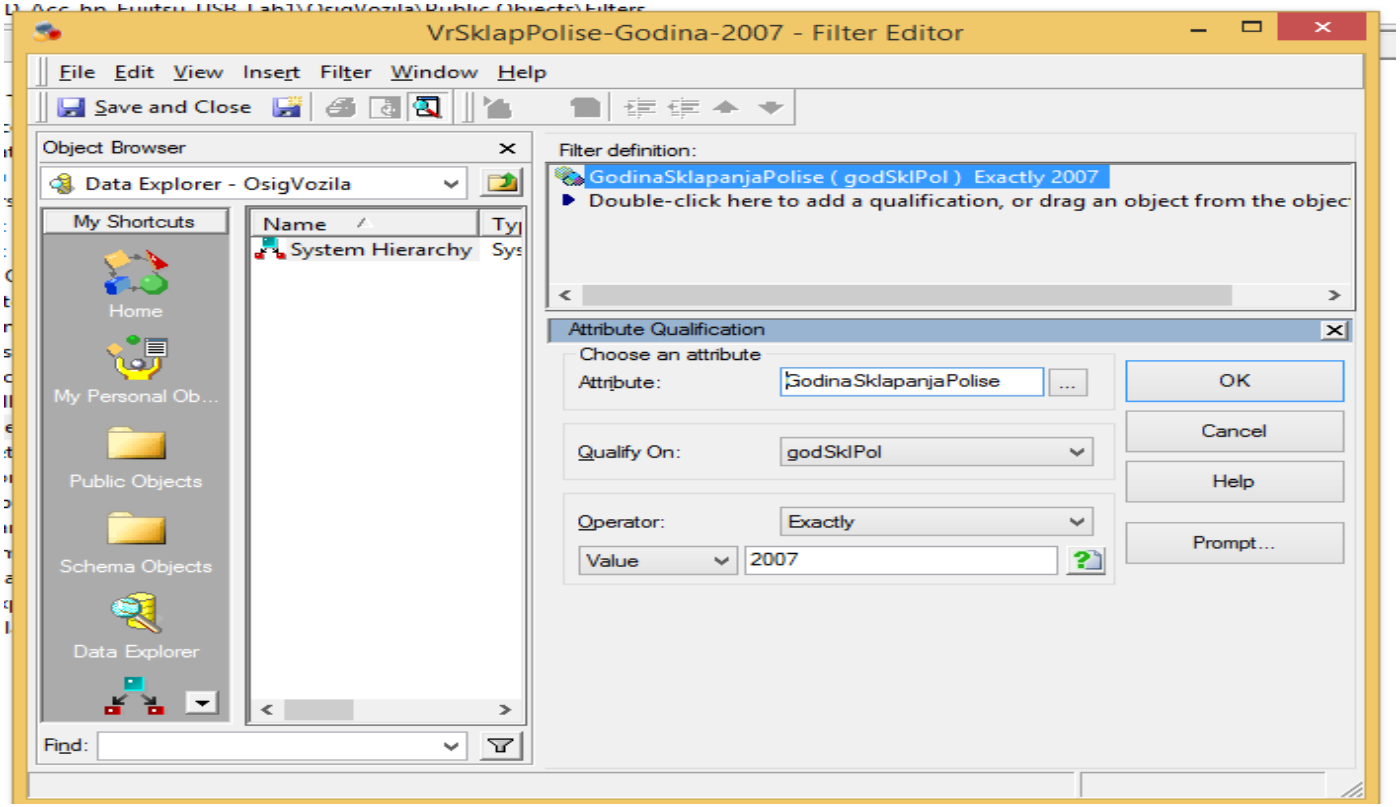
2. Taj filter objekat se ugrađuje u Condition metrike

3. Metrika se zatim koristi u izveštajima

Složene metrike/mere

Komponenta mere – USLOV

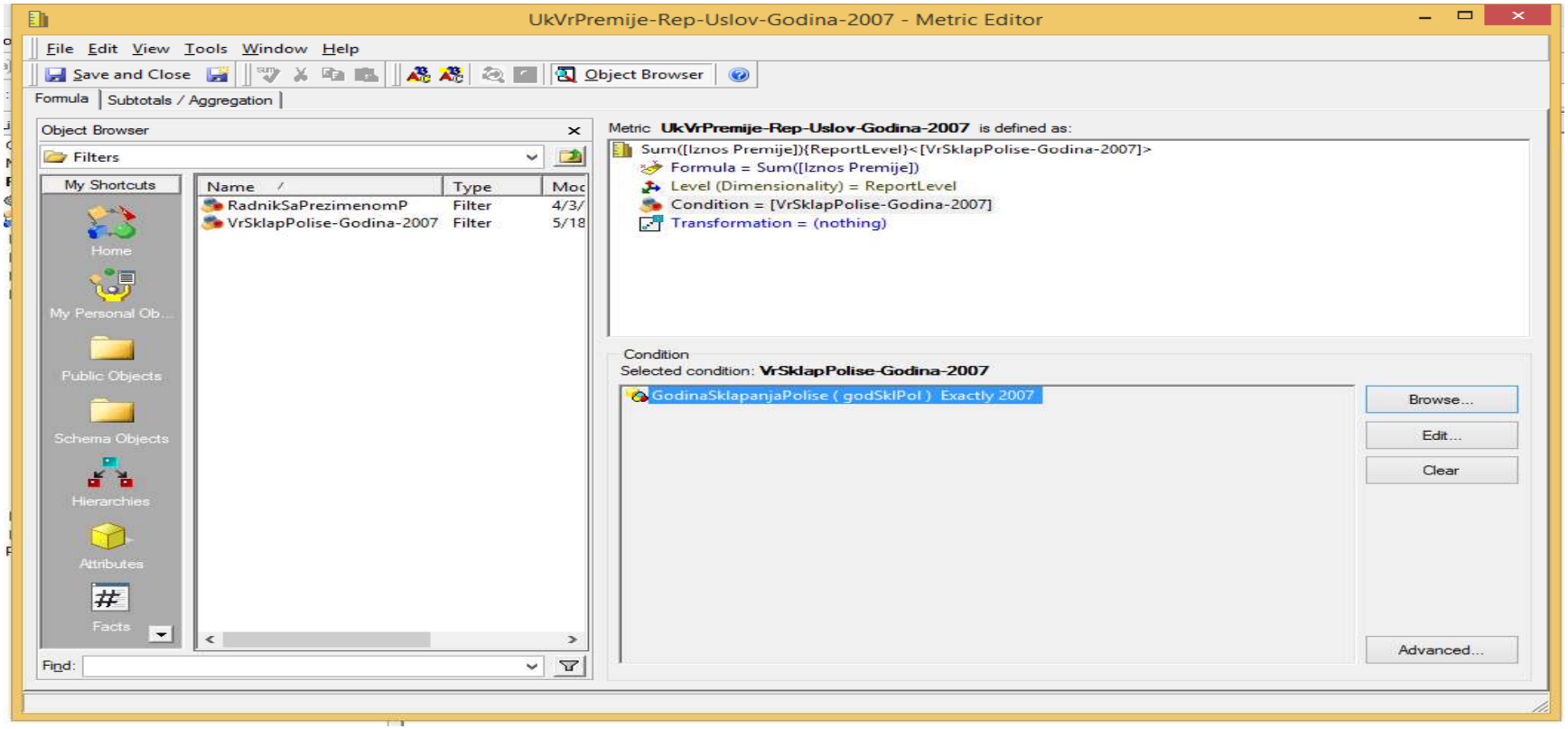
1. Stvara se filter objekat



Složene metrike/mere

Komponenta mere – USLOV

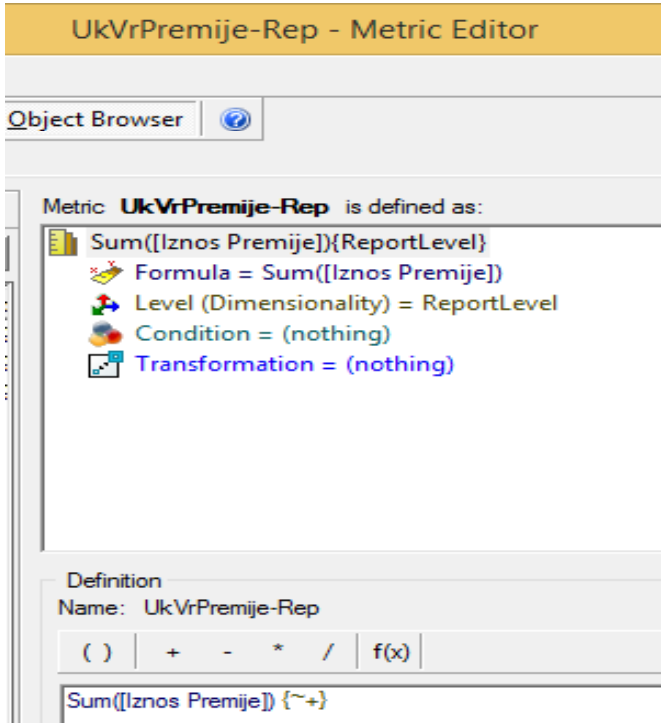
2. Taj filter objekat se ugrađuje u Condition metrike

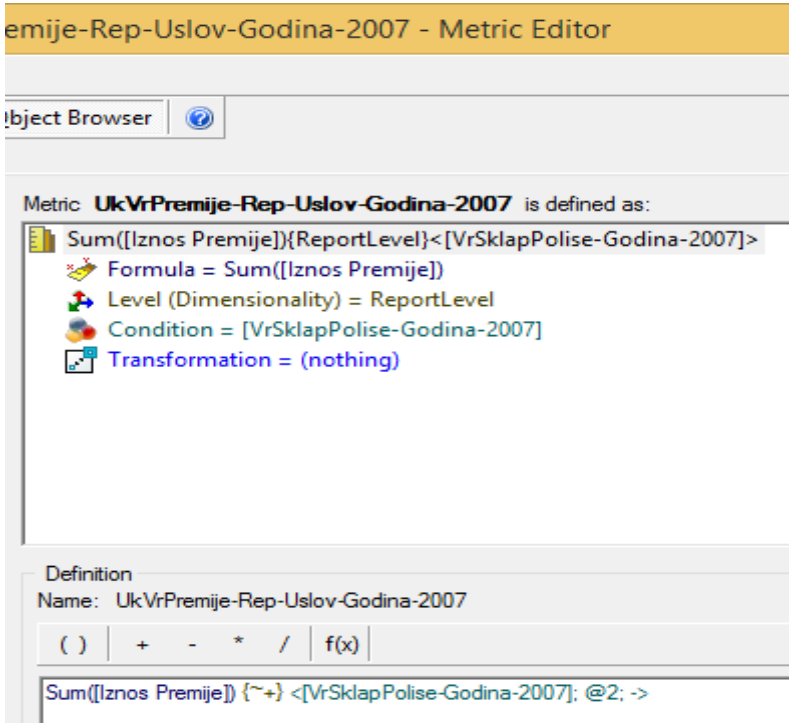


Složene metrike/mere

Komponenta mere – USLOV

3. Metrika se zatim koristi u izveštajima

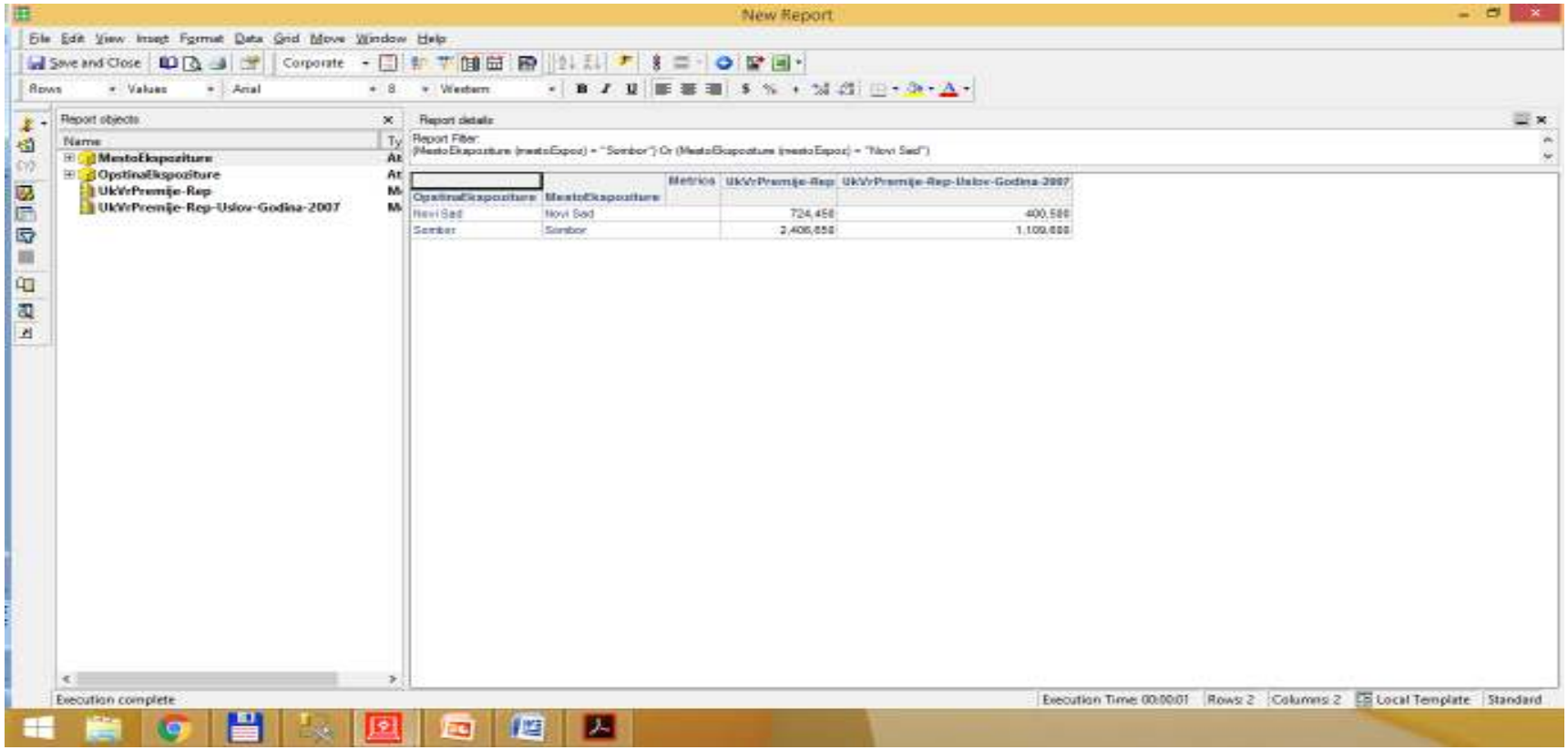




Složene metrike/mere

Komponenta mere – USLOV

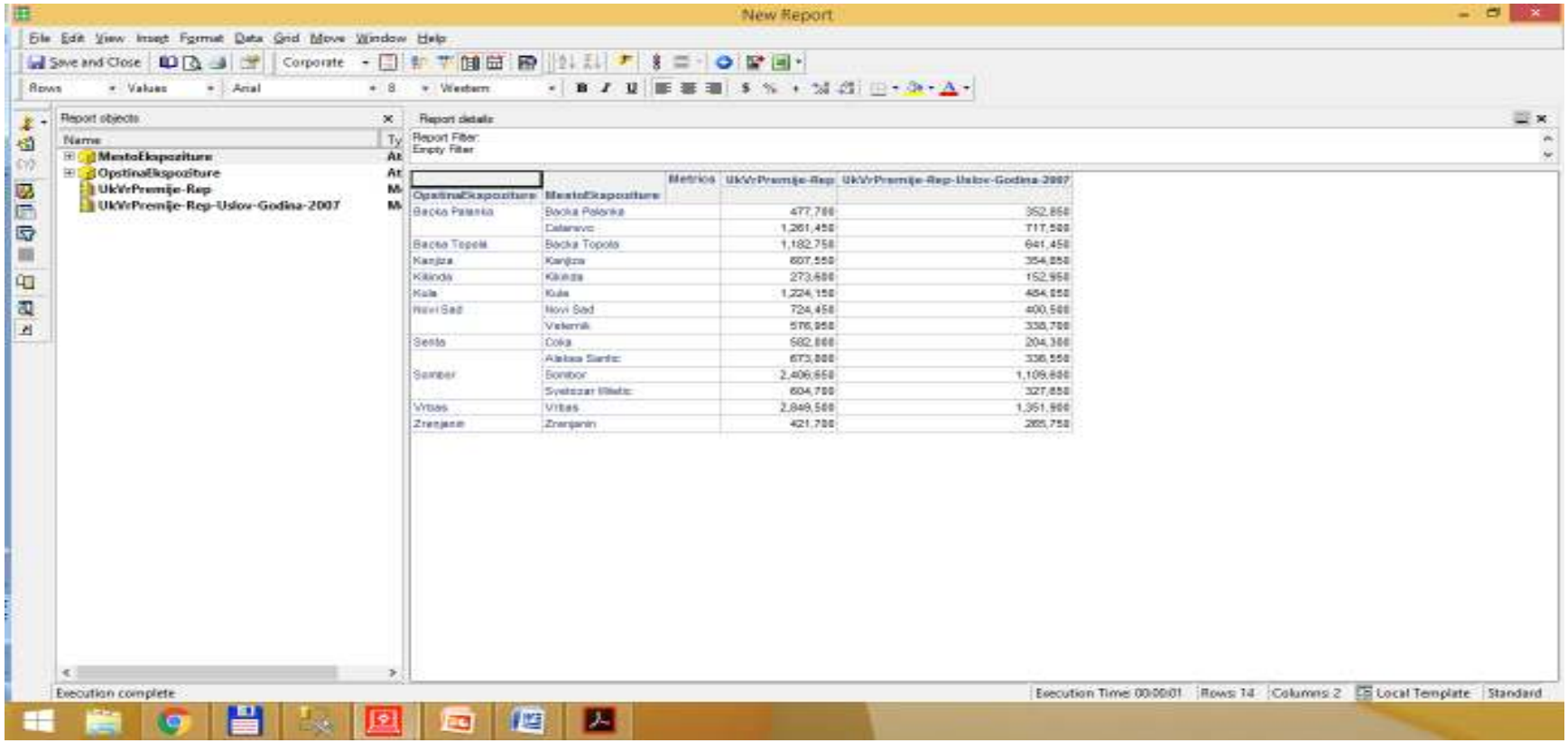
3. Metrika se zatim koristi u izveštajima



Složene metrike/mere

Komponenta mere – USLOV

3. Metrika se zatim koristi u izveštajima-a bez lokalnog filtera



Složene metrike/mere

Komponente mera – TRANSFORMACIJE

- Neobavezna komponenta
- Tranformacione mere se najčešće koriste za poređenje vrednosti različitih vremenskih perioda – na primer ova godina u odnosu na prethodnu, ovaj kvartal u odnosu na isti kvartal prethodne godine.
- Tranformacione mere (mere koje sadrže transformacije) se definišu navođenjem transformacija koje treba vršiti pri njenom računanju.
- Transformacije kao objekti šeme
  - Transformacije su objekti šeme kojima se definiše kako treba vršiti transfomaciju neke vrednosti atributa u njenu transformisanu vrednost.
  - Transformacije se mogu definisati pomoću izraza ~~ili odgovarajućih transformacionih tabela~~.

Složene metrike/mere

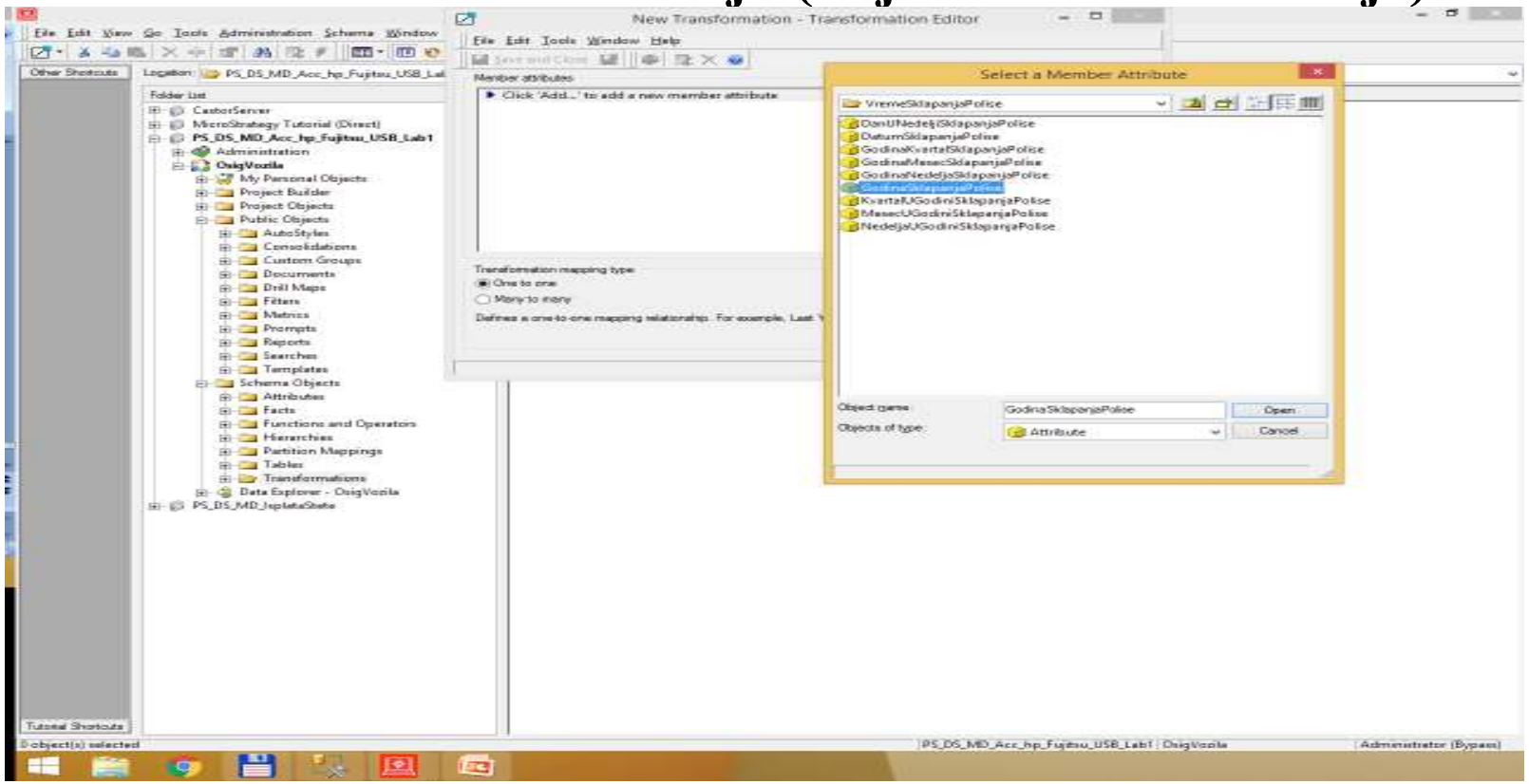
Komponente mera – TRANSFORMACIJE

1. **Definiše se transformacija (objekat transformacije)**
2. **Objekat transformacije se uključuje u metriku**
3. **Stvara se nova metrika sa odnosom metrika (indeks rasta-običan)**
4. **Stvara se nova metrika sa odnosom metrika u procentima**
5. **Generiše se izveštaj pomoću transformacionih metrika**

Složene metrike/mere

Komponente mera – TRANSFORMACIJE

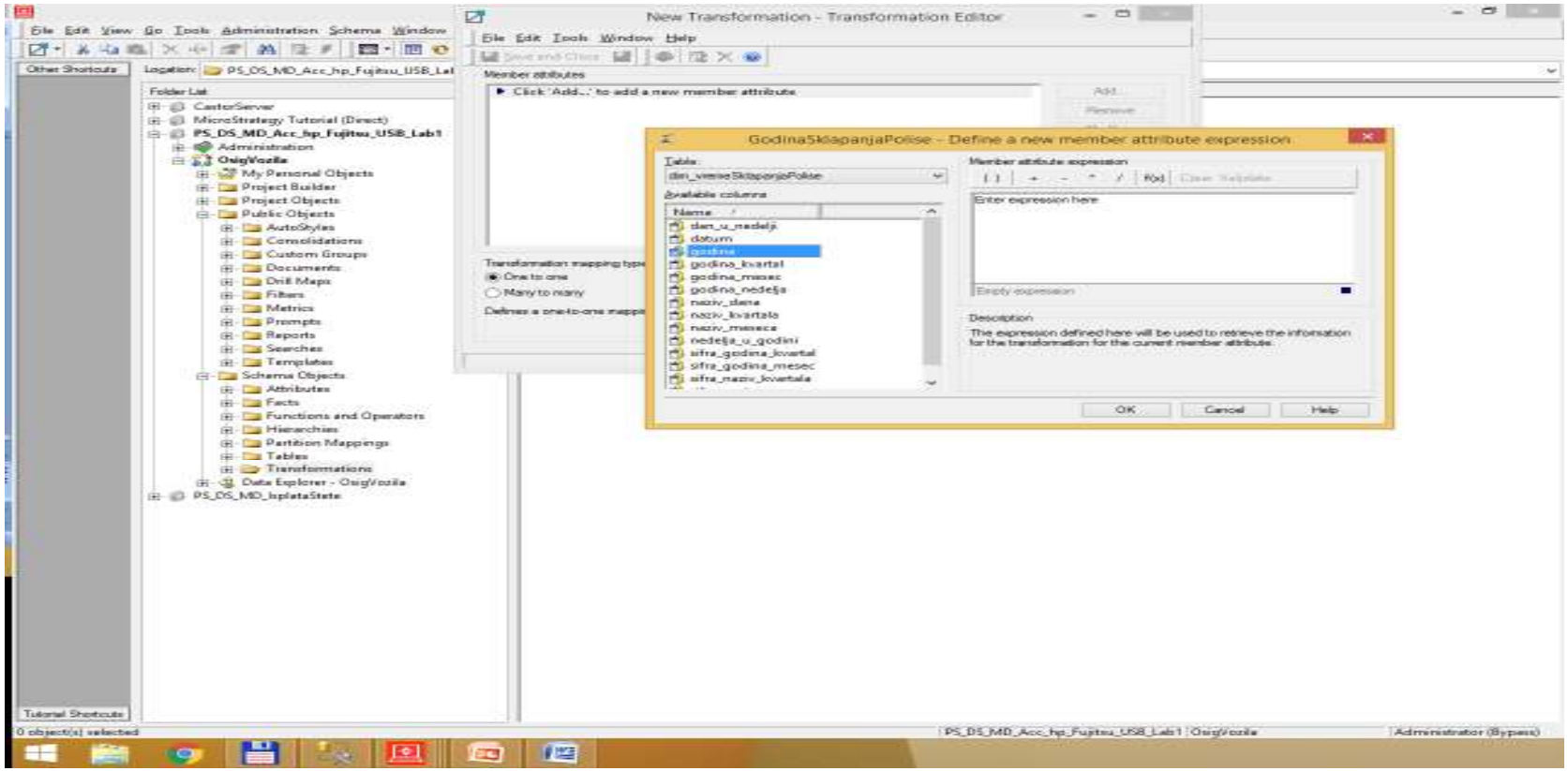
1. Definiše se transformacija (objekat transformacije)



Složene metrike/mere

Komponente mera – TRANSFORMACIJE

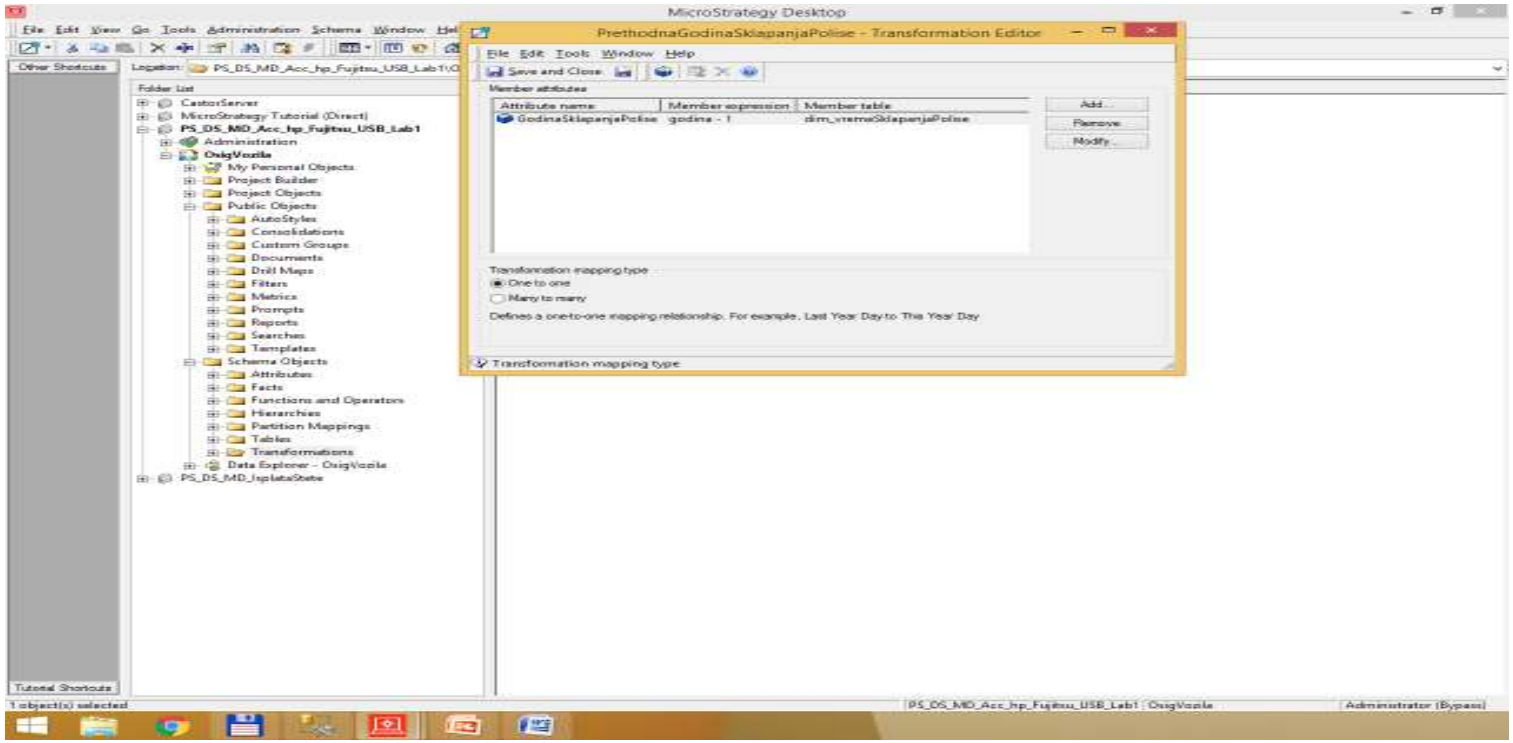
1. Definiše se transformacija (objekat transformacije)



Složene metrike/mere

Komponente mera – TRANSFORMACIJE

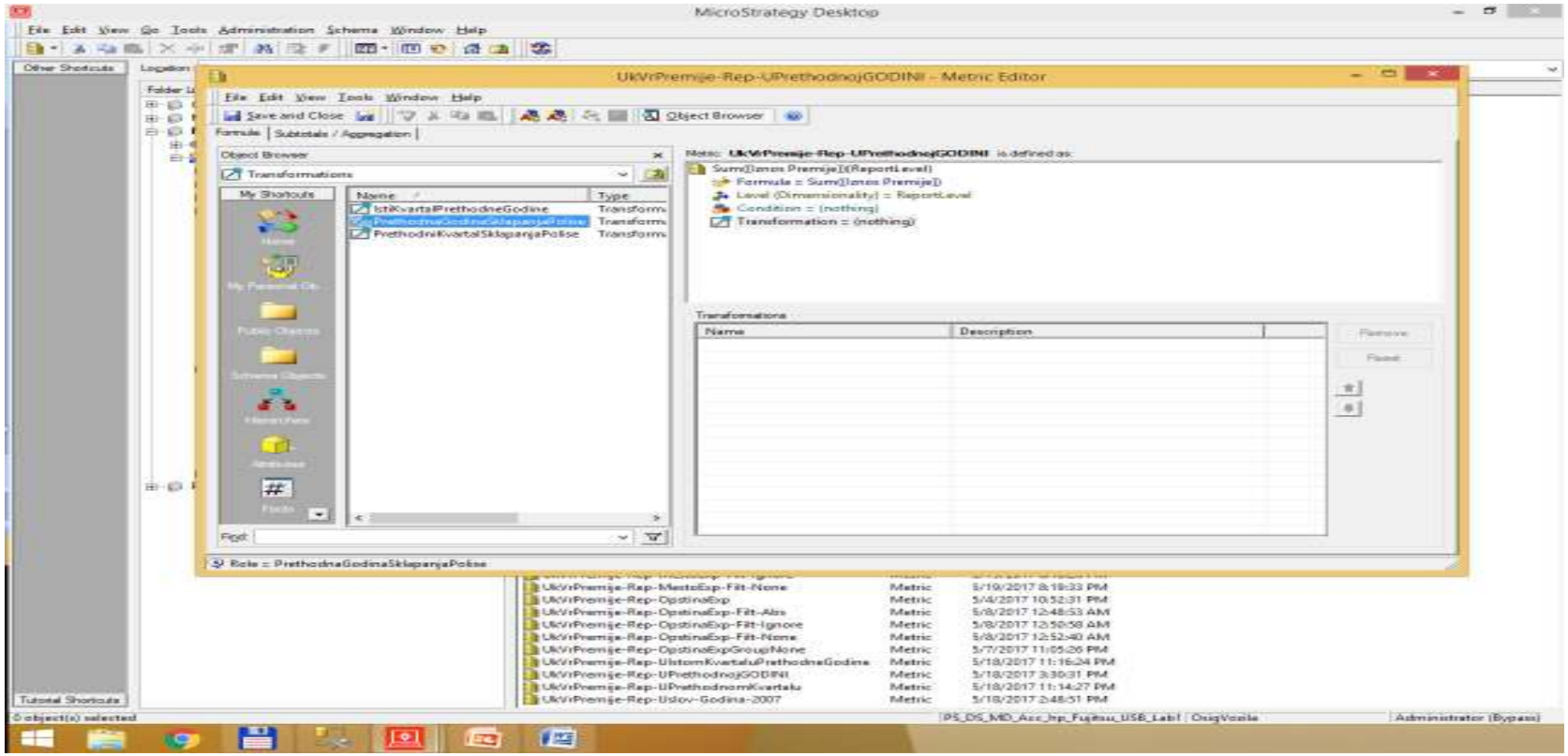
1. Definiše se transformacija (objekat transformacije)



Složene metrike/mere

Komponente mera – TRANSFORMACIJE

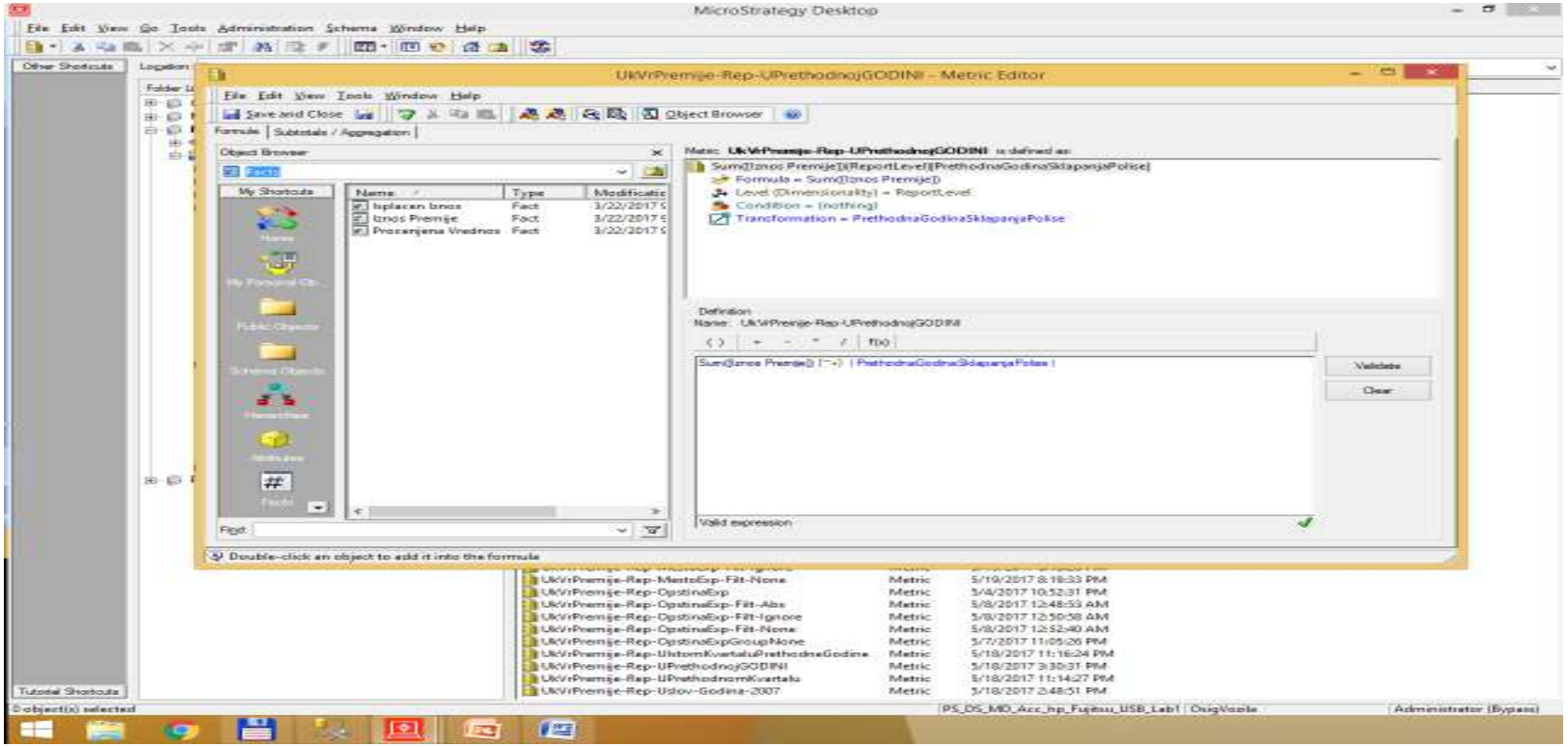
2. Objekat transformacije se uključuje u metriku



Složene metrike/mere

Komponente mera – TRANSFORMACIJE

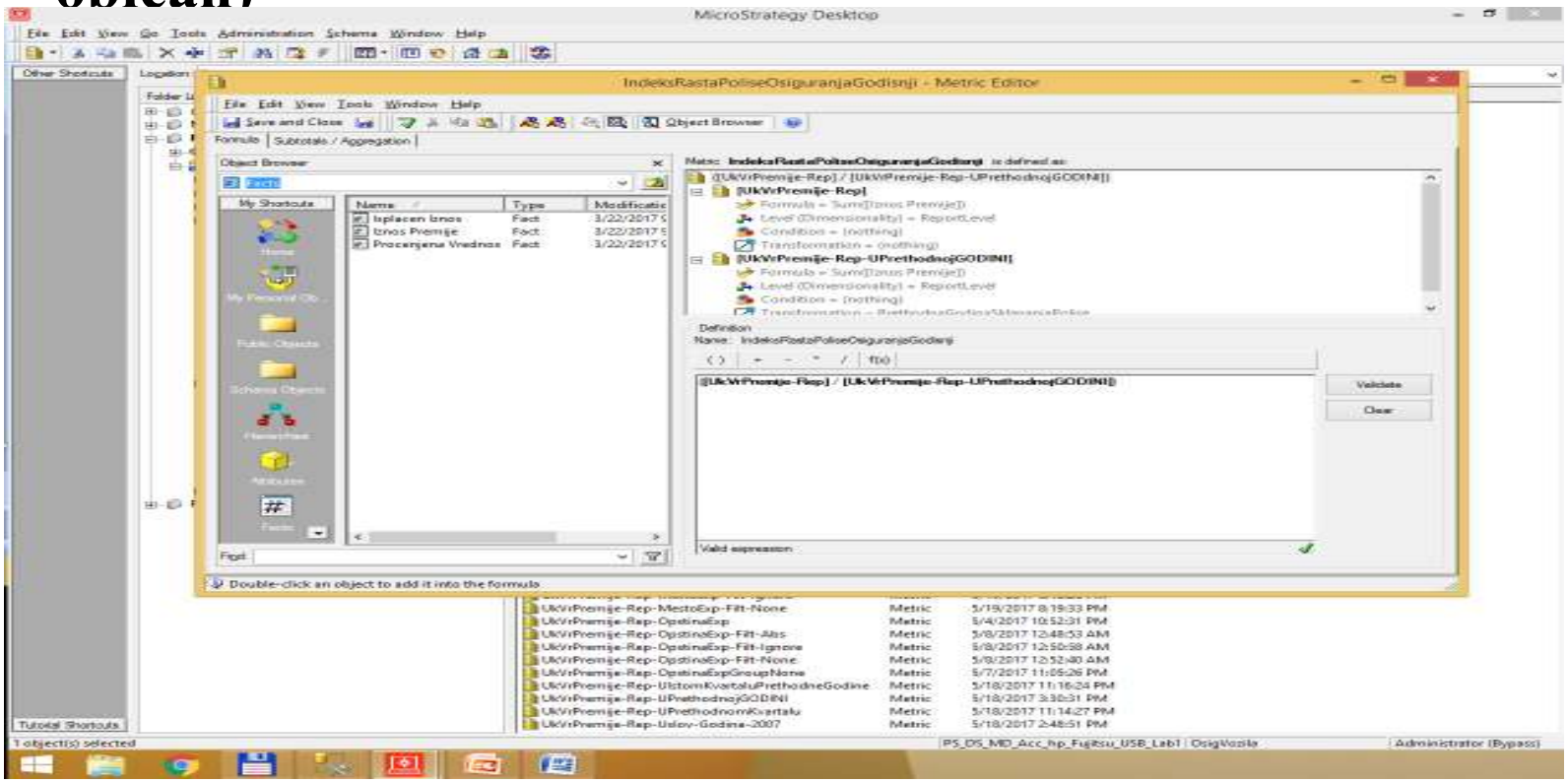
2. Objekat transformacije se uključuje u metriku



Složene metrike/mere

Komponente mera – TRANSFORMACIJE

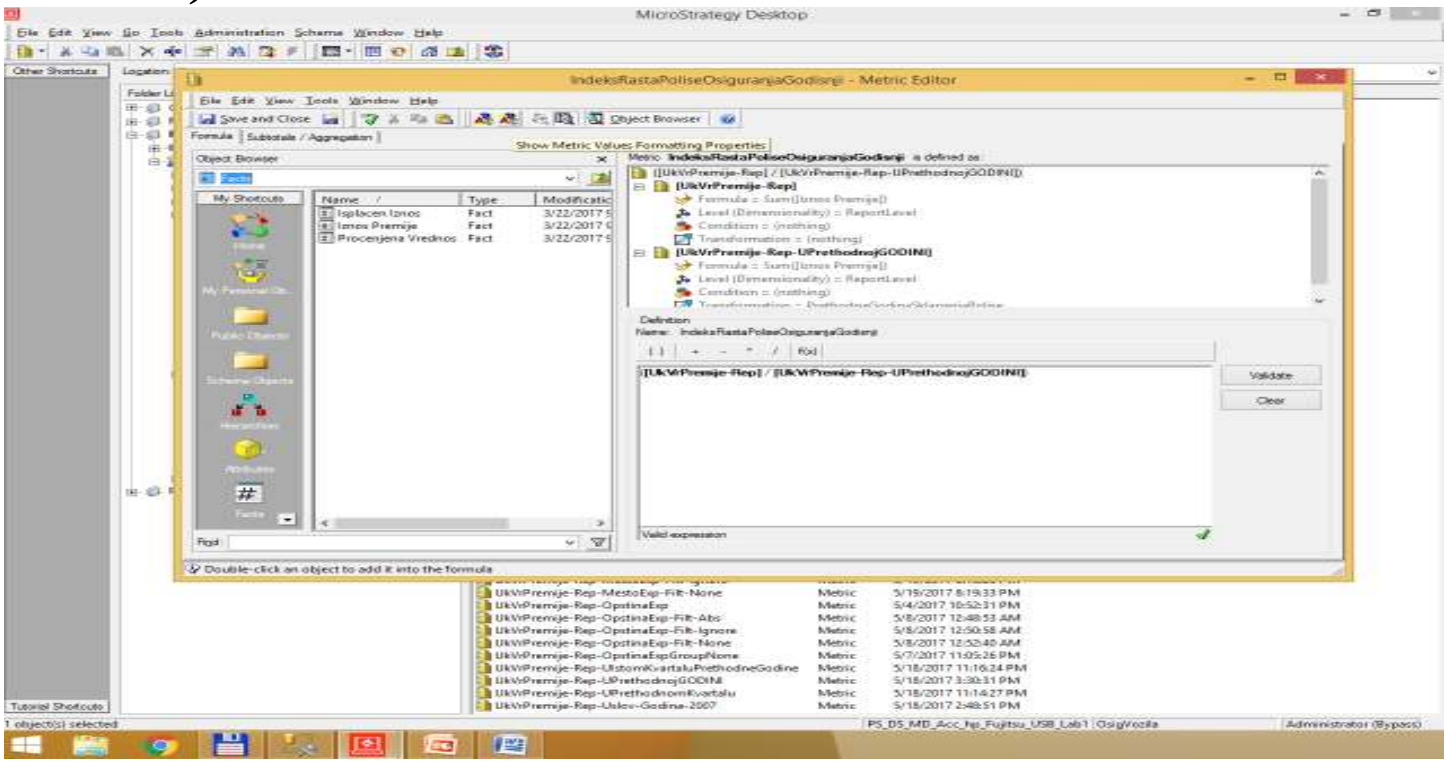
3. Stvara se nova metrika sa odnosom metrika (indeks rasta-običan)



Složene metrike/mere

Komponente mera – TRANSFORMACIJE

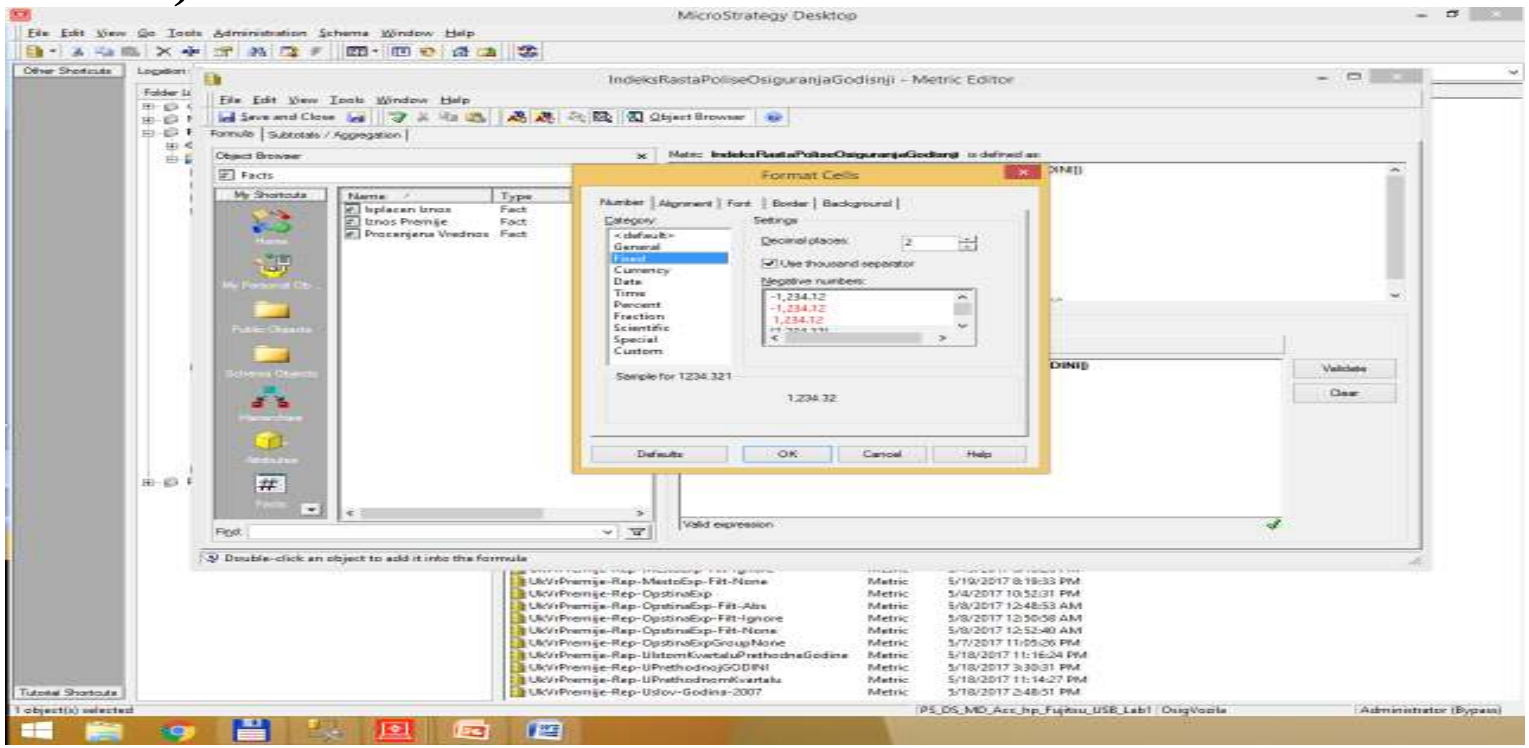
3. Stvara se nova metrika sa odnosom metrika (indeks rasta-običan)



Složene metrike/mere

Komponente mera – TRANSFORMACIJE

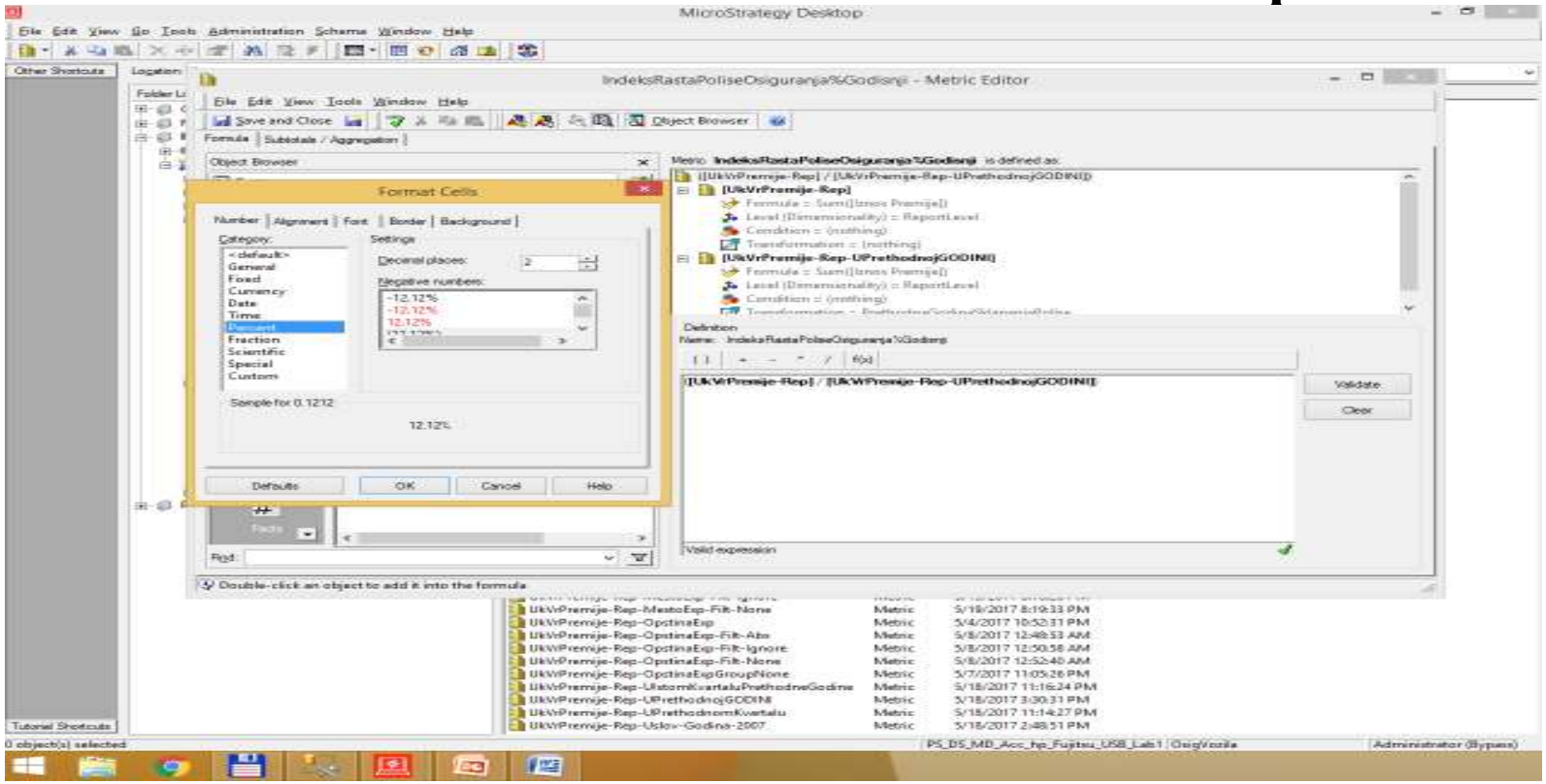
3. Stvara se nova metrika sa odnosom metrika (indeks rasta-običan)



Složene metrike/mere

Komponente mera – TRANSFORMACIJE

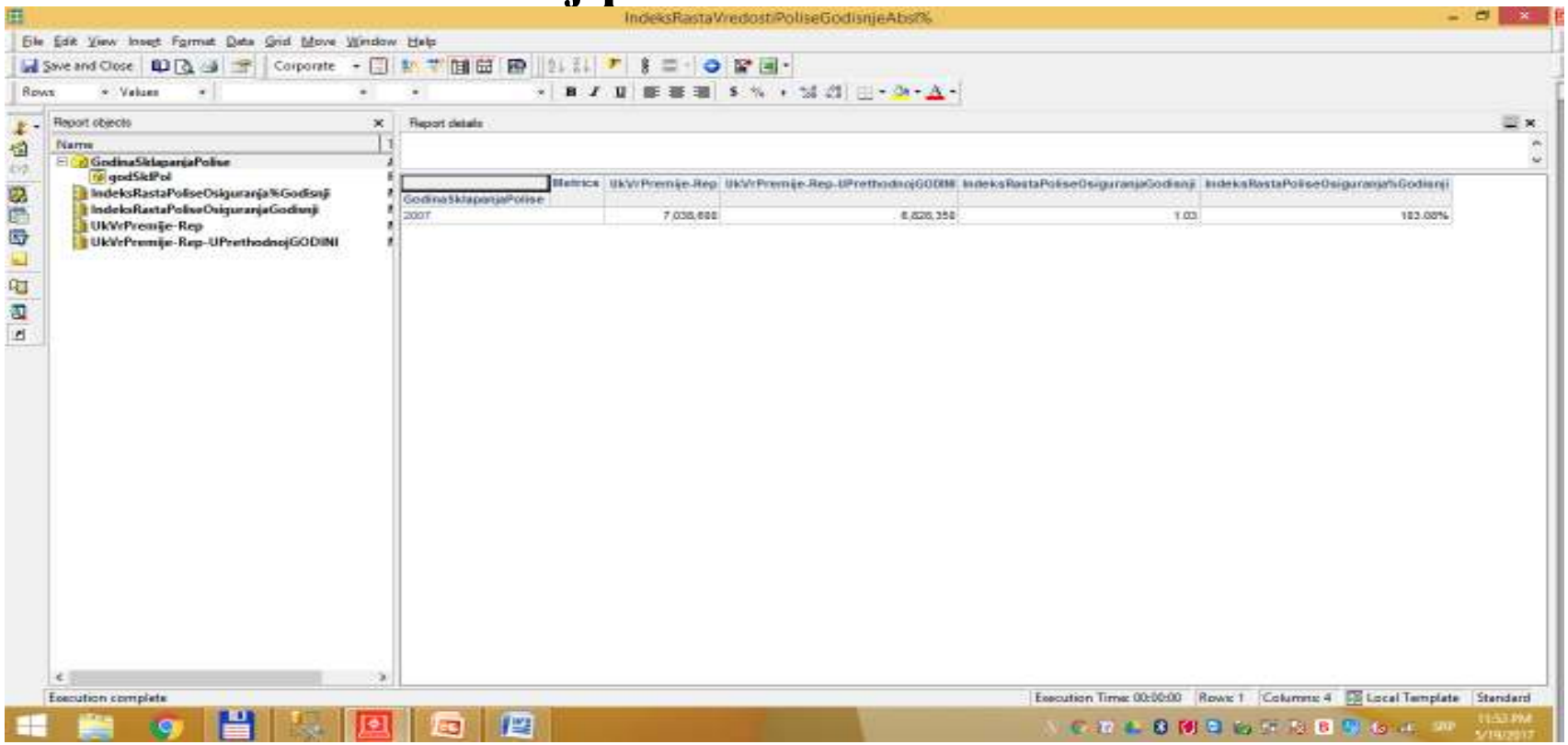
4. Stvara se nova metrika sa odnosom metrika u procentima



Složene metrike/mere

Komponente mera – TRANSFORMACIJE

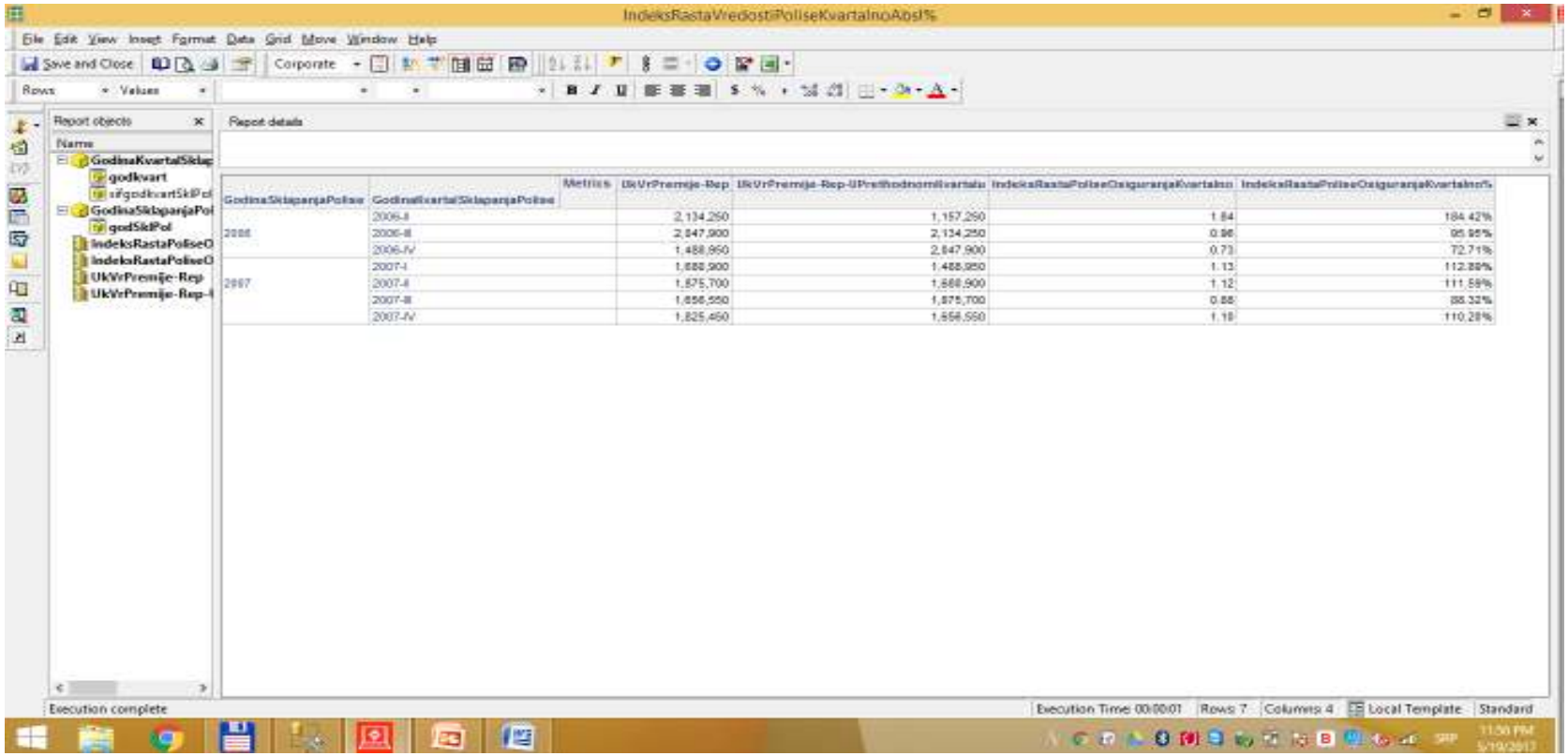
5. Generiše se izveštaj pomoću transformacionih metrika



Složene metrike/mere

Komponente mera – TRANSFORMACIJE

5. Generiše se izveštaj pomoću transformacionih metrika

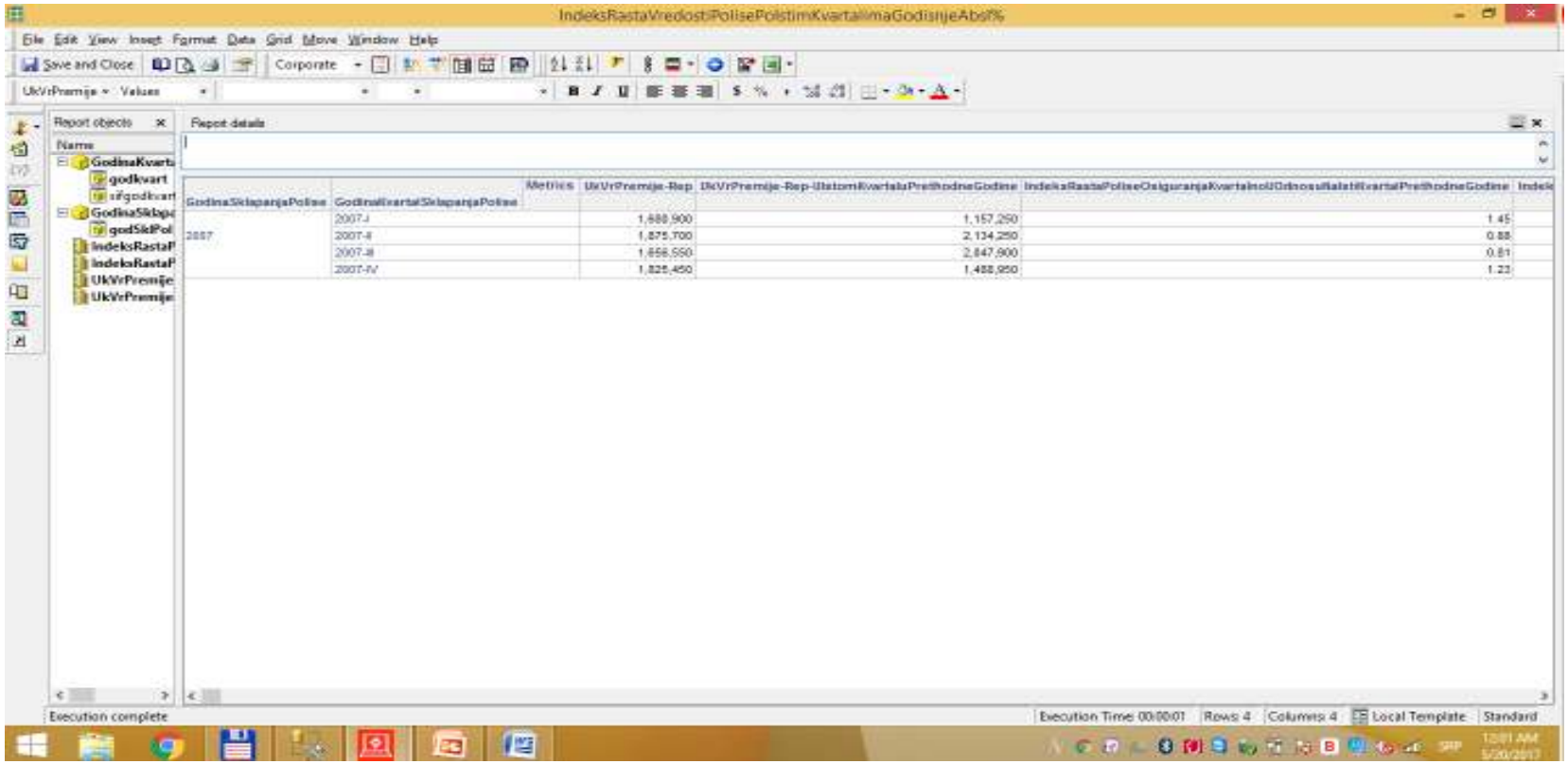


GodinaSklapanjaPolise	GodinaKvartalSklapanjaPolise	Metrics	UkVrPremije-Rep	UkVrPremije-Rep-UPrethodnomKvartalu	IndeksRastaPoliseOsiguranjaKvartalno	IndeksRastaPoliseOsiguranjaKvartalno%
2006	2006-II		2,134,250	1,157,250	1.84	184.42%
	2006-III		2,847,900	2,134,250	0.96	95.95%
	2006-IV		1,488,950	2,847,900	0.73	72.71%
2007	2007-I		1,688,900	1,488,950	1.13	112.89%
	2007-II		1,875,700	1,688,900	1.12	111.59%
	2007-III		1,656,550	1,875,700	0.88	88.32%
	2007-IV		1,825,460	1,656,550	1.10	110.28%

Složene metrike/mere

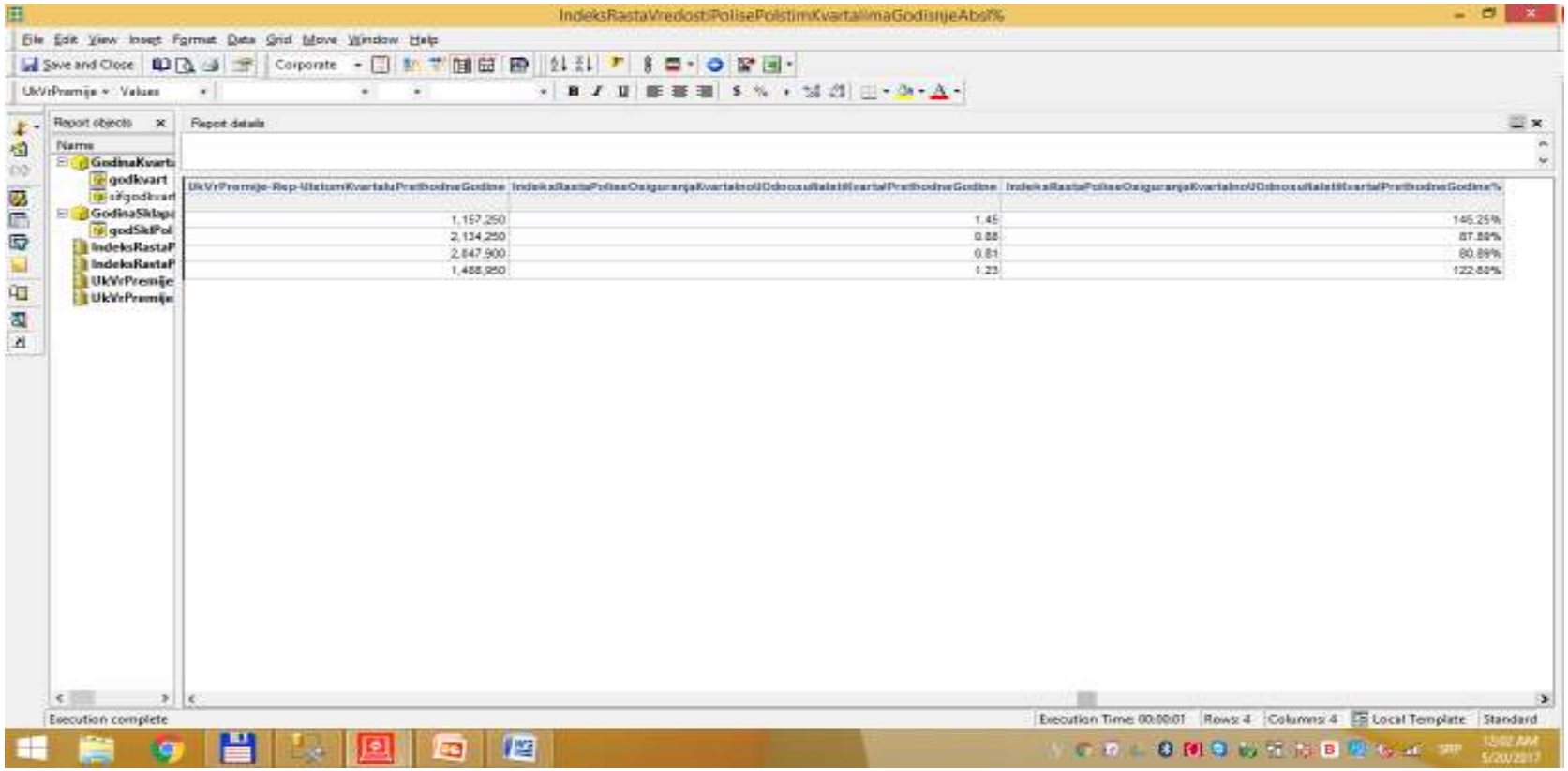
Komponente mera – TRANSFORMACIJE

5. Generiše se izveštaj pomoću transformacionih metrika



GodinaSklapanjaPolise	GodinaIKvartalSklapanjaPolise	Metrics	UkVrPremije-Rep	UkVrPremije-Rep-UlazomKvartaluPrethodneGodine	IndeksRastaPoliseOsiguranjaKvartalnoUOdnosuNaIstiKvartalPrethodneGodine	Indek
2007	2007-I		1,680,900	1,157,250	1.45	
	2007-II		1,875,700	2,124,250	0.88	
	2007-III		1,656,550	2,047,900	0.81	
	2007-IV		1,825,450	1,488,950	1.23	

Složene metrike/mere

Komponente mera – TRANSFORMACIJE

5. Generiše se izveštaj pomoću transformacionih metrika