All commands computed using Stata S/E. All measurements taken by 2006 Canadian Census census tracts for the entire Toronto CMA.

Dimensions:

1 - Housing – Tenure

TNT_30RNT% *(Tenants paying over 30 percent of income towards rent)*
OWN_30PY% *(Homeowners paying over 30 percent of income towards homeownership costs)*
MOB5Y_MOV% *(Percentage of persons who have moved in the past five years)*
DWL_OWN% *(Percentage of households who are homeowners)*
CNDT_MAJ% *(Percentage of houses that require major repairs)*
Persons/Bedroom *(Ration of average number of people per household to average number of bedrooms)*

2- Housing - Physical Form

CNTPR_B46% *(Percentage of units constructed before 1946)*
CNTPR_4670% *(Percentage of units constructed between 1946 and 1970)*
CNTPR_7100% *(Percentage of units constructed between 1971 and 2000)*
CNTPR_0106% *(Percentage of units constructed between 2001 and 2006)*
DWL_SNGDT% *(Percentage of single detached houses)*
DWL_APT% *(Percentage of Apartment building units)*

3 - Citizenship

TOT_RCN% *(Percentage of recent immigrants, arriving in the past 5 years)*
TOT_IMM% *(Percentage of immigrants)*
GEN_2ND% *(Percentage of second generation Canadians)*
HMLAN_NONOFF% *(Percentage of households speaking a primary language other than English or French at home)*
Simpson *(Simpson Diversity Index, a measure of ethnic diversity)*
VIS_MIN% *(Percentage of visible minorities)*

4 - Income

UNEMP% *(Unemployment rate)*
HHINCA_AVR_STD *(Standardized figure of average household income taken after tax)*
EFAMAT_LIC% *(Percentage of low income families)*
W_LNAT_LIN% *(Percentage of low income lone parent families)*
WALKS Index *(Index measuring the level of income polarization)*
GINI S *(Index measuring the level of income inequality)*

5 - Labour

MGP_LABOUR *(Percentage of persons employed as managers)*
MFP_LABOUR *(Percentage of persons employed as manufacturers)*
FRP_LABOUR *(Percentage of persons employed in the financial, insurance, and real estate sector)*
SVP_LABOUR *(Percentage of persons employed in the service sector)*
TOT_DIFCSD *(Percentage of persons commuting to a different census subdivision for work)*
TRN_PUB *(Percentage of persons taking public transit to get to work)*

6 – The Household Economy

HW_15P% *(Percentage of persons doing 15 or more hours of housework per week)*
CC_15P% *(Percentage of persons doing 15 or more hours of childcare per week)*
TOTEDU_UNI% *(Percentage of persons with a university degree)*
CF_TOTLNP% *(Percentage of lone-parent families)*
CF_CHAVR_ZSCORE *(Standardized score of average number of children at home)*
HHTYP_1FM% *(Percentage of households categorized as one-family households)*

Dimension 1 – Housing -Tenure
Commands:

> pca TNT_30RNT_ OWN_30PY_ MOB5Y_MOV_ DWL_OWN_ Persons_Bedroom cndt_maj

```
. pca TNT_30RNT_ OWN_30PY_ MOB5Y_MOV_ DWL_OWN_ Persons_Bedroom cndt_maj

Principal components/correlation                    Number of obs    =        988
                                                    Number of comp.  =          6
                                                    Trace            =          6
        Rotation: (unrotated = principal)           Rho              =     1.0000
```

Component	Eigenvalue	Difference	Proportion	Cumulative
Comp1	2.74166	1.5151	0.4569	0.4569
Comp2	1.22656	.289156	0.2044	0.6614
Comp3	.937404	.398212	0.1562	0.8176
Comp4	.539192	.164291	0.0899	0.9075
Comp5	.374901	.194618	0.0625	0.9700
Comp6	.180283	.	0.0300	1.0000

Principal components (eigenvectors)

Variable	Comp1	Comp2	Comp3	Comp4	Comp5	Comp6	Unexplained
TNT_30RNT_	0.1821	0.1374	0.9715	-0.0368	-0.0005	0.0536	0
OWN_30PY_	0.4419	0.3680	-0.0871	0.6743	0.2132	-0.4020	0
MOB5Y_MOV_	0.3953	0.4821	-0.1759	-0.5540	0.4681	0.2331	0
DWL_OWN_	-0.4858	0.3658	0.0208	0.4244	0.2298	0.6300	0
Persons_Be~m	0.5311	0.0284	-0.1282	0.1375	-0.6295	0.5344	0
cndt_maj	0.3117	-0.6919	0.0297	0.1953	0.5352	0.3143	0

D1C1: Many persons per bedroom (crowding), few owners, yet the relatively few owners are paying a large percentage of their income towards homeownership costs. In need of major repair. Core housing need (mostly renters). Highly mobile.

D1C2: Tenants paying more than 30% of their income on housing costs. No maintenance needed.

D1C3: Homeowners, paying more than 30% of income on housing, highly mobile.

Dimension 2 – Housing – Physical Form
>pca CNTPR_B46_ CNTPR_4670_ CNTPR_7100_ CNTPR_0106_ DWL_SNGDT_ DWL_APT_

```
. pca CNTPR_B46_ CNTPR_4670_ CNTPR_7100_ CNTPR_0106_ DWL_SNGDT_ DWL_APT_

Principal components/correlation                 Number of obs    =       995
                                                 Number of comp.  =         6
                                                 Trace            =         6
         Rotation: (unrotated = principal)       Rho              =    1.0000
```

Component	Eigenvalue	Difference	Proportion	Cumulative
Comp1	2.3618	.935237	0.3936	0.3936
Comp2	1.42657	.267804	0.2378	0.6314
Comp3	1.15876	.243041	0.1931	0.8245
Comp4	.91572	.783673	0.1526	0.9771
Comp5	.132047	.126945	0.0220	0.9991
Comp6	.00510297	.	0.0009	1.0000

Principal components (eigenvectors)

Variable	Comp1	Comp2	Comp3	Comp4	Comp5	Comp6	Unexplained
CNTPR_B46_	0.3526	0.2698	0.3728	−0.6936	0.0168	0.4273	0
CNTPR_4670_	0.3779	0.3798	−0.5249	0.3848	−0.0688	0.5335	0
CNTPR_7100_	−0.4167	−0.5939	−0.2212	−0.1748	0.0101	0.6277	0
CNTPR_0106_	−0.2380	0.1409	0.7009	0.5408	0.0347	0.3723	0
DWL_SNGDT_	−0.4846	0.4746	−0.1904	−0.1413	0.6955	0.0096	0
DWL_APT_	0.5174	−0.4303	0.0952	0.1672	0.7142	0.0050	0

D2C1: Older housing stock, not built between 1971 and 2000. Apartment buildings, few single detached houses.

D2C2: Older housing stock, not built between 1971 and 2000. Single detached houses, few apartment buildings.

D2C3: New housing stock, built largely from 2001 to 2006. Little or no existing housing stock from before 1946. Likely suburban tract development.

Dimension 3 - Citizenship

\> pca TOT_RCN_ TOT_IMM_ GEN_2ND_ HMLAN_NONOFF_ VIS_MIN_ SIMPSON

. pca TOT_RCN_ TOT_IMM_ GEN_2ND_ HMLAN_NONOFF_ VIS_MIN_ SIMPSON

Principal components/correlation

Number of obs	=	995
Number of comp.	=	6
Trace	=	6

Rotation: (unrotated = principal)   Rho   =   1.0000

Component	Eigenvalue	Difference	Proportion	Cumulative
Comp1	4.48016	3.9157	0.7467	0.7467
Comp2	.564454	.0986199	0.0941	0.8408
Comp3	.465834	.139944	0.0776	0.9184
Comp4	.32589	.199362	0.0543	0.9727
Comp5	.126529	.0893945	0.0211	0.9938
Comp6	.0371342	.	0.0062	1.0000

Principal components (eigenvectors)

Variable	Comp1	Comp2	Comp3	Comp4	Comp5	Comp6	Unexplained
TOT_RCN_	0.3944	−0.3119	−0.3599	0.7427	0.2540	0.0392	0
TOT_IMM_	0.4473	−0.0491	0.3967	0.0499	−0.2200	−0.7676	0
GEN_2ND_	−0.3844	0.2454	0.6592	0.5331	0.2640	0.0599	0
HMLAN_NONO~_	0.4287	−0.2769	0.4659	−0.0212	−0.3785	0.6155	0
VIS_MIN_	0.4365	0.1277	0.1791	−0.3653	0.7872	0.0894	0
SIMPSON	0.3497	0.8643	−0.1717	0.1667	−0.2334	0.1375	0

D3C1: Many immigrant households, visible minorities speaking a primary language other than French or English at home.

D3C2: Area of high ethnic diversity.

D3C3: Second generation Canadians, speaking a primary language other than French or English at home.

Dimension 4 - Income

> pca UNEMP_ EFAMAT_LIC_ W_LNAT_LIN_ HHINCA_AVR_ZSCORES GINI
Walks_Index

```
Principal components/correlation              Number of obs    =        992
                                              Number of comp.  =          6
                                              Trace            =          6
      Rotation: (unrotated = principal)       Rho              =     1.0000
```

Component	Eigenvalue	Difference	Proportion	Cumulative
Comp1	3.67967	2.78637	0.6133	0.6133
Comp2	.893301	.272919	0.1489	0.7622
Comp3	.620382	.184995	0.1034	0.8656
Comp4	.435387	.22142	0.0726	0.9381
Comp5	.213967	.0566773	0.0357	0.9738
Comp6	.15729	.	0.0262	1.0000

Principal components (eigenvectors)

Variable	Comp1	Comp2	Comp3	Comp4	Comp5	Comp6	Unexplained
UNEMP_	0.4076	0.3535	0.2456	−0.7034	−0.0416	0.3899	0
EFAMAT_LIC_	0.4676	0.3016	0.0954	−0.0024	0.1631	−0.8091	0
W_LNAT_LIN_	0.4203	0.3672	0.0290	0.6252	−0.4623	0.2881	0
HHINCA_AVR~S	−0.3624	0.2893	0.8042	0.2273	0.2899	0.0510	0
GINI	0.4601	−0.2507	−0.0628	0.2491	0.7485	0.3151	0
Walks_Index	0.3092	−0.7090	0.5283	−0.0233	−0.3372	−0.0912	0

D4C1: High unemployment, low income economic and lone-parent families, high level of census tract inequality.

D4C2: Very low level of economic polarization.

D4C3: Very high average household income, large economic polarization within census tract.

Dimension 5 - Labour

>. pca MGP_LABOUR MFP_LABOUR FRP_LABOUR SVP_LABOUR TOT_DIFCSD_
TRN_PUB_

```
Principal components/correlation                    Number of obs    =        995
                                                    Number of comp.  =          6
                                                    Trace            =          6
       Rotation: (unrotated = principal)            Rho              =     1.0000
```

Component	Eigenvalue	Difference	Proportion	Cumulative
Comp1	2.65015	1.03768	0.4417	0.4417
Comp2	1.61247	.855969	0.2687	0.7104
Comp3	.756501	.187506	0.1261	0.8365
Comp4	.568995	.356786	0.0948	0.9314
Comp5	.212209	.0125302	0.0354	0.9667
Comp6	.199679	.	0.0333	1.0000

Principal components (eigenvectors)

Variable	Comp1	Comp2	Comp3	Comp4	Comp5	Comp6	Unexplained
MGP_LABOUR	−0.4942	−0.3003	−0.3649	0.0300	−0.0502	0.7273	0
MFP_LABOUR	0.3858	0.4650	0.1118	−0.5772	−0.1099	0.5265	0
FRP_LABOUR	−0.3780	0.0315	0.8907	0.1364	−0.0863	0.1915	0
SVP_LABOUR	0.4658	0.1715	−0.0164	0.7834	−0.1648	0.3353	0
TOT_DIFCSD_	−0.3044	0.6230	−0.1179	0.1734	0.6886	0.0317	0
TRN_PUB_	0.3930	−0.5244	0.2163	−0.0586	0.6904	0.2091	0

D5C1: Service sector employees, few managers.

D5C2: Manufacturing sector employees, travelling large commutes by private transit.

D5C3: FIRE sector employees.

Dimension 6 – The Household Economy

> pca HW_15P_ CC_15P_ TOTEDU_UNI_ CF_TOTLNP_ CF_CHAVR_ZSCORE
HHTYP_1FM_

```
Principal components/correlation              Number of obs    =        994
                                              Number of comp.  =          6
                                              Trace            =          6
        Rotation: (unrotated = principal)     Rho              =     1.0000
```

Component	Eigenvalue	Difference	Proportion	Cumulative
Comp1	2.98851	1.49132	0.4981	0.4981
Comp2	1.49719	.898466	0.2495	0.7476
Comp3	.59872	.179556	0.0998	0.8474
Comp4	.419165	.13043	0.0699	0.9173
Comp5	.288734	.0810468	0.0481	0.9654
Comp6	.207687	.	0.0346	1.0000

Principal components (eigenvectors)

Variable	Comp1	Comp2	Comp3	Comp4	Comp5	Comp6	Unexplained
HW_15P_	0.4638	−0.2137	−0.5063	0.3399	0.3609	0.4869	0
CC_15P_	0.4649	0.0277	0.4953	0.6275	−0.3714	−0.0783	0
TOTEDU_UNI_	−0.3186	0.5743	0.2884	0.3466	0.5746	0.1876	0
CF_TOTLNP_	−0.0628	−0.7168	0.5066	−0.0485	0.4705	−0.0427	0
CF_CHAVR_Z~E	0.4567	0.2496	0.3864	−0.5895	0.0081	0.4818	0
HHTYP_1FM_	0.5047	0.2183	−0.0955	−0.1441	0.4245	−0.6983	0

D6C1: High levels of unpaid housework and childcare, households with children at home, single family households. Likely nuclear family household structure, one parent at home taking care of children and housework.

D6C2: Highly educated, non-lone-parent households.

D6C3: Lone parent families doing a large amount of childcare, but not a large amount of housework.

Predicting Scores for Each Dimension (Three Factors/Components Take from Each Dimension)

>pca TNT_30RNT_ OWN_30PY_ MOB5Y_MOV_ DWL_OWN_ Persons_Bedroom, components(3)

>predict d1c1 d1c2 d1c3

```
. predict d1c1 d1c2 d1c3
(score assumed)

Scoring coefficients
     sum of squares(column-loading) = 1
```

Variable	Comp1	Comp2	Comp3
TNT_30RNT_	0.1994	0.9774	0.0033
OWN_30PY_	0.4874	-0.0514	0.5077
MOB5Y_MOV_	0.4610	-0.1342	0.4242
DWL_OWN_	-0.4556	0.0706	0.7198
Persons_Be~m	0.5501	-0.1378	-0.2102

>pca CNTPR_B46_ CNTPR_4670_ CNTPR_7100_ CNTPR_0106_ DWL_SNGDT_ DWL_APT_, components(3)

>predict d2c1 d2c2 d2c3

```
. predict d2c1 d2c2 d2c3
(score assumed)

Scoring coefficients
     sum of squares(column-loading) = 1
```

Variable	Comp1	Comp2	Comp3
CNTPR_B46_	0.3526	0.2698	0.3728
CNTPR_4670_	0.3779	0.3798	-0.5249
CNTPR_7100_	-0.4167	-0.5939	-0.2212
CNTPR_0106_	-0.2380	0.1409	0.7009
DWL_SNGDT_	-0.4846	0.4746	-0.1904
DWL_APT_	0.5174	-0.4303	0.0952

>pca TOT_RCN_ TOT_IMM_ GEN_2ND_ HMLAN_NONOFF_ VIS_MIN_ SIMPSON,
components(3)

>predict d3c1 d3c2 d3c3

```
. predict d3c1 d3c2 d3c3
(score assumed)

Scoring coefficients
     sum of squares(column-loading) = 1
```

Variable	Comp1	Comp2	Comp3
TOT_RCN_	0.3944	−0.3119	−0.3599
TOT_IMM_	0.4473	−0.0491	0.3967
GEN_2ND_	−0.3844	0.2454	0.6592
HMLAN_NONO~_	0.4287	−0.2769	0.4659
VIS_MIN_	0.4365	0.1277	0.1791
SIMPSON	0.3497	0.8643	−0.1717

>pca UNEMP_ EFAMAT_LIC_ W_LNAT_LIN_ HHINCA_AVR_ZSCORES GINI
Walks_Index, components(3)

>predict d4c1 d4c2 d4c3

```
. predict d4c1 d4c2 d4c3
(score assumed)

Scoring coefficients
     sum of squares(column-loading) = 1
```

Variable	Comp1	Comp2	Comp3
UNEMP_	0.4076	0.3535	0.2456
EFAMAT_LIC_	0.4676	0.3016	0.0954
W_LNAT_LIN_	0.4203	0.3672	0.0290
HHINCA_AVR~S	−0.3624	0.2893	0.8042
GINI	0.4601	−0.2507	−0.0628
Walks_Index	0.3092	−0.7090	0.5283

>pca MGP_LABOUR MFP_LABOUR FRP_LABOUR SVP_LABOUR TOT_DIFCSD_
TRN_PUB_, components(3)

>predict d5c1 d5c2 d5c3

```
. predict d5c1 d5c2 d5c3
(score assumed)

Scoring coefficients
    sum of squares(column-loading) = 1
```

Variable	Comp1	Comp2	Comp3
MGP_LABOUR	−0.4942	−0.3003	−0.3649
MFP_LABOUR	0.3858	0.4650	0.1118
FRP_LABOUR	−0.3780	0.0315	0.8907
SVP_LABOUR	0.4658	0.1715	−0.0164
TOT_DIFCSD_	−0.3044	0.6230	−0.1179
TRN_PUB_	0.3930	−0.5244	0.2163

> pca HW_15P_ CC_15P_ TOTEDU_UNI_ CF_TOTLNP_ CF_CHAVR_ZSCORE
HHTYP_1FM_, components(3)

> predict d6c1 d6c2 d6c3

```
. predict d6c1 d6c2 d6c3
(score assumed)

Scoring coefficients
    sum of squares(column-loading) = 1
```

Variable	Comp1	Comp2	Comp3
HW_15P_	0.4638	−0.2137	−0.5063
CC_15P_	0.4649	0.0277	0.4953
TOTEDU_UNI_	−0.3186	0.5743	0.2884
CF_TOTLNP_	−0.0628	−0.7168	0.5066
CF_CHAVR_Z~E	0.4567	0.2496	0.3864
HHTYP_1FM_	0.5047	0.2183	−0.0955

Cluster Analysis using Dimension Scores

> cluster wardslinkage d1c1 d1c2 d1c3 d2c1 d2c2 d2c3 d3c1 d3c2 d3c3 d4c1 d4c2 d4c3 d5c1 d5c2 d5c3 d6c1 d6c2 d6c3

> cluster name: _clus_2

> cluster dendrogram, cutnumber(10)

> cluster gen g10 = group(10)