

## Construcción del índice de Myers usando REDATAM 7

**Paso 1:** se crea  $P_j$ , definiendo a un nivel geográfico los grupos de 10 a 69 años, que contienen edades (PERSONA.P09) terminadas en las distintas categorías de  $j$ .

```
DEFINE REGION.TOTAL0  
AS COUNT PERSONA  
FOR (PERSONA.P09=10 OR PERSONA.P09=20 OR PERSONA.P09=30 OR PERSONA.P09=40 OR PERSONA.P09=50 OR PERSONA.P09=60)
```

```
DEFINE REGION.TOTAL1  
AS COUNT PERSONA  
FOR (PERSONA.P09=11 OR PERSONA.P09=21 OR PERSONA.P09=31 OR PERSONA.P09=41 OR PERSONA.P09=51 OR PERSONA.P09=61)
```

```
DEFINE REGION.TOTAL2  
AS COUNT PERSONA  
FOR (PERSONA.P09=12 OR PERSONA.P09=22 OR PERSONA.P09=32 OR PERSONA.P09=42 OR PERSONA.P09=52 OR PERSONA.P09=62)
```

```
DEFINE REGION.TOTAL3  
AS COUNT PERSONA  
FOR (PERSONA.P09=13 OR PERSONA.P09=23 OR PERSONA.P09=33 OR PERSONA.P09=43 OR PERSONA.P09=53 OR PERSONA.P09=63 )
```

```
DEFINE REGION.TOTAL4  
AS COUNT PERSONA  
FOR (PERSONA.P09=14 OR PERSONA.P09=24 OR PERSONA.P09=34 OR PERSONA.P09=44 OR PERSONA.P09=54 OR PERSONA.P09=64)
```

```
DEFINE REGION.TOTAL5  
AS COUNT PERSONA  
FOR (PERSONA.P09=15 OR PERSONA.P09=25 OR PERSONA.P09=35 OR PERSONA.P09=45 OR PERSONA.P09=55 OR PERSONA.P09=65)
```

```
DEFINE REGION.TOTAL6  
AS COUNT PERSONA  
FOR (PERSONA.P09=16 OR PERSONA.P09=26 OR PERSONA.P09=36 OR PERSONA.P09=46 OR PERSONA.P09=56 OR PERSONA.P09=66)
```

```
DEFINE REGION.TOTAL7  
AS COUNT PERSONA  
FOR (PERSONA.P09=17 OR PERSONA.P09=27 OR PERSONA.P09=37 OR PERSONA.P09=47 OR PERSONA.P09=57 OR PERSONA.P09=67)
```

```
DEFINE REGION.TOTAL8  
AS COUNT PERSONA  
FOR (PERSONA.P09=18 OR PERSONA.P09=28 OR PERSONA.P09=38 OR PERSONA.P09=48 OR PERSONA.P09=58 OR PERSONA.P09=68)
```

```
DEFINE REGION.TOTAL9  
AS COUNT PERSONA  
FOR (PERSONA.P09=19 OR PERSONA.P09=29 OR PERSONA.P09=39 OR PERSONA.P09=49 OR PERSONA.P09=59 OR PERSONA.P09=69)
```

**Paso 2:** se crea  $a_j P_j$  multiplicando las variables creadas en el paso 1 por los valores de  $a_j$  (1, 2, 3, 4, 5, 6, 7, 8, 9, 10)

```
DEFINE REGION.PRODUCT1  
AS REGION.TOTAL0 * 1
```

```
DEFINE REGION.PRODUCT2  
AS REGION.TOTAL1 * 2
```

```
DEFINE REGION.PRODUCT3  
AS REGION.TOTAL2 * 3
```

```
DEFINE REGION.PRODUCT4  
AS REGION.TOTAL3 * 4
```

DEFINE REGION.PRODUCT5  
AS REGION.TOTAL4 \* 5

DEFINE REGION.PRODUCT6  
AS REGION.TOTAL5 \* 6

DEFINE REGION.PRODUCT7  
AS REGION.TOTAL6 \* 7

DEFINE REGION.PRODUCT8  
AS REGION.TOTAL7 \* 8

DEFINE REGION.PRODUCT9  
AS REGION.TOTAL8 \* 9

DEFINE REGION.PRODUCT10  
AS REGION.TOTAL9 \* 10

**Paso 3:** se crea  $P'_j$ , definiendo a un nivel geográfico los grupos de 20 a 79 años, que contienen edades (PERSONA.P09) terminadas en las distintas categorías de  $j$ .

DEFINE REGION.TOTALB0  
AS COUNT PERSONA  
FOR (PERSONA.P09=70 OR PERSONA.P09=20 OR PERSONA.P09=30 OR PERSONA.P09=40 OR PERSONA.P09=50 OR PERSONA.P09=60)

DEFINE REGION.TOTALB1  
AS COUNT PERSONA  
FOR (PERSONA.P09=71 OR PERSONA.P09=21 OR PERSONA.P09=31 OR PERSONA.P09=41 OR PERSONA.P09=51 OR PERSONA.P09=61)

DEFINE REGION.TOTALB2  
AS COUNT PERSONA  
FOR (PERSONA.P09=72 OR PERSONA.P09=22 OR PERSONA.P09=32 OR PERSONA.P09=42 OR PERSONA.P09=52 OR PERSONA.P09=62)

DEFINE REGION.TOTALB3  
AS COUNT PERSONA  
FOR (PERSONA.P09=73 OR PERSONA.P09=23 OR PERSONA.P09=33 OR PERSONA.P09=43 OR PERSONA.P09=53 OR PERSONA.P09=63)

DEFINE REGION.TOTALB4  
AS COUNT PERSONA  
FOR (PERSONA.P09=74 OR PERSONA.P09=24 OR PERSONA.P09=34 OR PERSONA.P09=44 OR PERSONA.P09=54 OR PERSONA.P09=64)

DEFINE REGION.TOTALB5  
AS COUNT PERSONA  
FOR (PERSONA.P09=75 OR PERSONA.P09=25 OR PERSONA.P09=35 OR PERSONA.P09=45 OR PERSONA.P09=55 OR PERSONA.P09=65)

DEFINE REGION.TOTALB6  
AS COUNT PERSONA  
FOR (PERSONA.P09=76 OR PERSONA.P09=26 OR PERSONA.P09=36 OR PERSONA.P09=46 OR PERSONA.P09=56 OR PERSONA.P09=66)

DEFINE REGION.TOTALB7  
AS COUNT PERSONA  
FOR (PERSONA.P09=77 OR PERSONA.P09=27 OR PERSONA.P09=37 OR PERSONA.P09=47 OR PERSONA.P09=57 OR PERSONA.P09=67)

DEFINE REGION.TOTALB8  
AS COUNT PERSONA  
FOR (PERSONA.P09=78 OR PERSONA.P09=28 OR PERSONA.P09=38 OR PERSONA.P09=48 OR PERSONA.P09=58 OR PERSONA.P09=68)

DEFINE REGION.TOTALB9  
AS COUNT PERSONA  
FOR (PERSONA.P09=79 OR PERSONA.P09=29 OR PERSONA.P09=39 OR PERSONA.P09=49 OR PERSONA.P09=59 OR PERSONA.P09=69)

**Paso 4:** se crea  $a'_j p'_j$  multiplicando las variables creadas en el paso 3 por los valores de  $a'_j$  (9, 8, 7, 6, 5, 4, 3, 2, 1, 0)

```
DEFINE REGION.PRODUCTB1  
AS REGION.TOTALB0 * 9
```

```
DEFINE REGION.PRODUCTB2  
AS REGION.TOTALB1 * 8
```

```
DEFINE REGION.PRODUCTB3  
AS REGION.TOTALB2 * 7
```

```
DEFINE REGION.PRODUCTB4  
AS REGION.TOTALB3 * 6
```

```
DEFINE REGION.PRODUCTB5  
AS REGION.TOTALB4 * 5
```

```
DEFINE REGION.PRODUCTB6  
AS REGION.TOTALB5 * 4
```

```
DEFINE REGION.PRODUCTB7  
AS REGION.TOTALB6 * 3
```

```
DEFINE REGION.PRODUCTB8  
AS REGION.TOTALB7 * 2
```

```
DEFINE REGION.PRODUCTB9  
AS REGION.TOTALB8 * 1
```

```
DEFINE REGION.PRODUCTB10  
AS REGION.TOTALB9 * 0
```

**Paso 5:** se suman los productos y se hace una suma resumen al final

```
DEFINE REGION.SUMA1  
AS REGION.PRODUCT1 + REGION.PRODUCTB1
```

```
DEFINE REGION.SUMA2  
AS REGION.PRODUCT2 + REGION.PRODUCTB2
```

```
DEFINE REGION.SUMA3  
AS REGION.PRODUCT3 + REGION.PRODUCTB3
```

```
DEFINE REGION.SUMA4  
AS REGION.PRODUCT4 + REGION.PRODUCTB4
```

```
DEFINE REGION.SUMA5  
AS REGION.PRODUCT5 + REGION.PRODUCTB5
```

```
DEFINE REGION.SUMA6  
AS REGION.PRODUCT6 + REGION.PRODUCTB6
```

```
DEFINE REGION.SUMA7  
AS REGION.PRODUCT7 + REGION.PRODUCTB7
```

```
DEFINE REGION.SUMA8  
AS REGION.PRODUCT8 + REGION.PRODUCTB8
```

```
DEFINE REGION.SUMA9  
AS REGION.PRODUCT9 + REGION.PRODUCTB9
```

```
DEFINE REGION.SUMA10  
AS REGION.PRODUCT10 + REGION.PRODUCTB10
```

```
DEFINE REGION.SUMTOT
AS REGION.SUMA1 + REGION.SUMA2 + REGION.SUMA3 + REGION.SUMA4 + REGION.SUMA5 + REGION.SUMA6 + REGION.SUMA7 +
REGION.SUMA8 + REGION.SUMA9 + REGION.SUMA10
```

Como el supuesto detrás del indicador es que, si los datos están libres de error, esta suma combinada para cada uno de los 10 dígitos debe representar el 10 % de su total general. Se procede a calcular porcentajes y posteriormente la desviación respecto a 10% en cada uno de los dígitos.

### **Paso 6:** cálculo de porcentajes

```
DEFINE REGION.PC1
AS ( REGION.SUMA1 / REGION.SUMTOT ) *100
```

```
DEFINE REGION.PC2
AS ( REGION.SUMA2 / REGION.SUMTOT ) *100
```

```
DEFINE REGION.PC3
AS ( REGION.SUMA3 / REGION.SUMTOT ) *100
```

```
DEFINE REGION.PC4
AS ( REGION.SUMA4 / REGION.SUMTOT ) *100
```

```
DEFINE REGION.PC5
AS ( REGION.SUMA5 / REGION.SUMTOT ) *100
```

```
DEFINE REGION.PC6
AS ( REGION.SUMA6 / REGION.SUMTOT ) *100
```

```
DEFINE REGION.PC7
AS ( REGION.SUMA7 / REGION.SUMTOT ) *100
```

```
DEFINE REGION.PC8
AS ( REGION.SUMA8 / REGION.SUMTOT ) *100
```

```
DEFINE REGION.PC9
AS ( REGION.SUMA9 / REGION.SUMTOT ) *100
```

```
DEFINE REGION.PC10
AS ( REGION.SUMA10 / REGION.SUMTOT ) *100
```

### **Paso 7:** cálculo de los desvíos

```
DEFINE REGION.DESVIODIG0
AS REGION.PC1 - 10
TYPE REAL
```

```
DEFINE REGION.DESVIODIG1
AS REGION.PC2 - 10
TYPE REAL
```

```
DEFINE REGION.DESVIODIG2
AS REGION.PC3 - 10
TYPE REAL
```

```
DEFINE REGION.DESVIODIG3
AS REGION.PC4 - 10
TYPE REAL
```

```
DEFINE REGION.DESVIODIG4
AS REGION.PC5 - 10
```

```
TYPE REAL
```

```
DEFINE REGION.DESVIODIG5  
AS REGION.PC6 - 10  
TYPE REAL  
DEFINE REGION.DESVIODIG6  
AS REGION.PC7 - 10  
TYPE REAL
```

```
DEFINE REGION.DESVIODIG7  
AS REGION.PC8 - 10  
TYPE REAL
```

```
DEFINE REGION.DESVIODIG8  
AS REGION.PC9 - 10  
TYPE REAL
```

```
DEFINE REGION.DESVIODIG9  
AS REGION.PC10 - 10  
TYPE REAL
```

```
DEFINE REGION.TOTALDES  
AS ABS( REGION.DESVIODIG1) + ABS( REGION.DESVIODIG0) + ABS( REGION.DESVIODIG2) + ABS( REGION.DESVIODIG3) +  
ABS( REGION.DESVIODIG4) + ABS( REGION.DESVIODIG5) + ABS( REGION.DESVIODIG6) + ABS( REGION.DESVIODIG7) +  
ABS( REGION.DESVIODIG8) + ABS( REGION.DESVIODIG9)
```

**Paso 8:** para ver el resultado del indicador al nivel geográfico construido, se solicita una tabla con las desviaciones. Este paso permite ver la atracción o rechazo por cierto dígito.

```
TABLE AS AREALIST OF REGION, REGION.IDREGION, REGION.DESVIODIG0, REGION.DESVIODIG1, REGION.DESVIODIG2,  
REGION.DESVIODIG3, REGION.DESVIODIG4, REGION.DESVIODIG5, REGION.DESVIODIG6, REGION.DESVIODIG7, REGION.DESVIODIG8,  
REGION.DESVIODIG9, REGION.TOTALDES
```

**Paso 9:** clasificación del indicador acuerdo al nivel de concentración. Para facilitar el análisis se crea una variable según los valores teóricos del indicador (baja, mediana, alta, muy alta concentración)

```
DEFINE REGION.MYERS  
  
AS SWITCH  
IN CASE REGION.TOTALDES <5 ASSIGN 1  
IN CASE REGION.TOTALDES >=5 AND REGION.TOTALDES <15 ASSIGN 2  
IN CASE REGION.TOTALDES >=15 AND REGION.TOTALDES <30 ASSIGN 3  
IN CASE REGION.TOTALDES >=30 ASSIGN 4  
RANGE 1:4  
VALUELABELS  
1 "BAJA CONCENTRACIÓN - DATA BUENA"  
2 "MEDIANA CONCENTRACIÓN - DATA APROXIMADA"  
3 "ALTA CONCENTRACIÓN - DATA MALA"  
4 "MUY ALTA CONCENTRACIÓN - DATA PÉSIMA"
```

```
FREQ REGION, REGION.MYERS
```

**Paso 10:** para observar a los distintos niveles de desagregación geográfica, puede modificarse esta programación mediante la función buscar y *reemplazar* (Ctrl + R), cambiando REGION por otra entidad geográfica. Asimismo, para ver las diferencias por sexo puede agregarse filtros con la variable de SEXO respectiva en la base de datos.