



BADAN PUSAT STATISTIK

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Application Mortpak-lite for life expectancy





Definition

The average year of life for someone reaching specific age x at specific year.

e_0 is calculated by indirect method using computer program introduced by UN : **Mortpak-Lite**.

To estimate e_0 BPS using *CEBCS (Children Ever Born Child Survival)* based on Trussell dan Palloni-Heligman method (UN, 1988).



- Basic data needed:
 - Average number of children ever born (ALH)
 - Average number of children survive (AMH) by mother 15 – 49 year
- *Trussel* provide one set coefficient for estimating mortality by 4 model life tables : west, east, north and south.
- West model life table is more appropriate for Indonesia and Malaysia
- The mortality estimation by Trussel Method gives time reference for all age group



Calculating Life Expectancy (e_0)

- e_0 estimated by q_1 (women age 15-19) give time reference closest to the census or survey date, then IMR estimated by q_2 (age 20-24) give time reference longer than q_2 and also for q_3 , q_5 , q_{10} , q_{15} and q_{20}
- Based on that consideration that CEB and CS from women age 20-24, 25-29, and 30-34 are the most trusted data, then life expectancy estimated by q_2 , q_3 , and q_5



Using Package Program : Mortpak-Lite

1. Open Mortpak

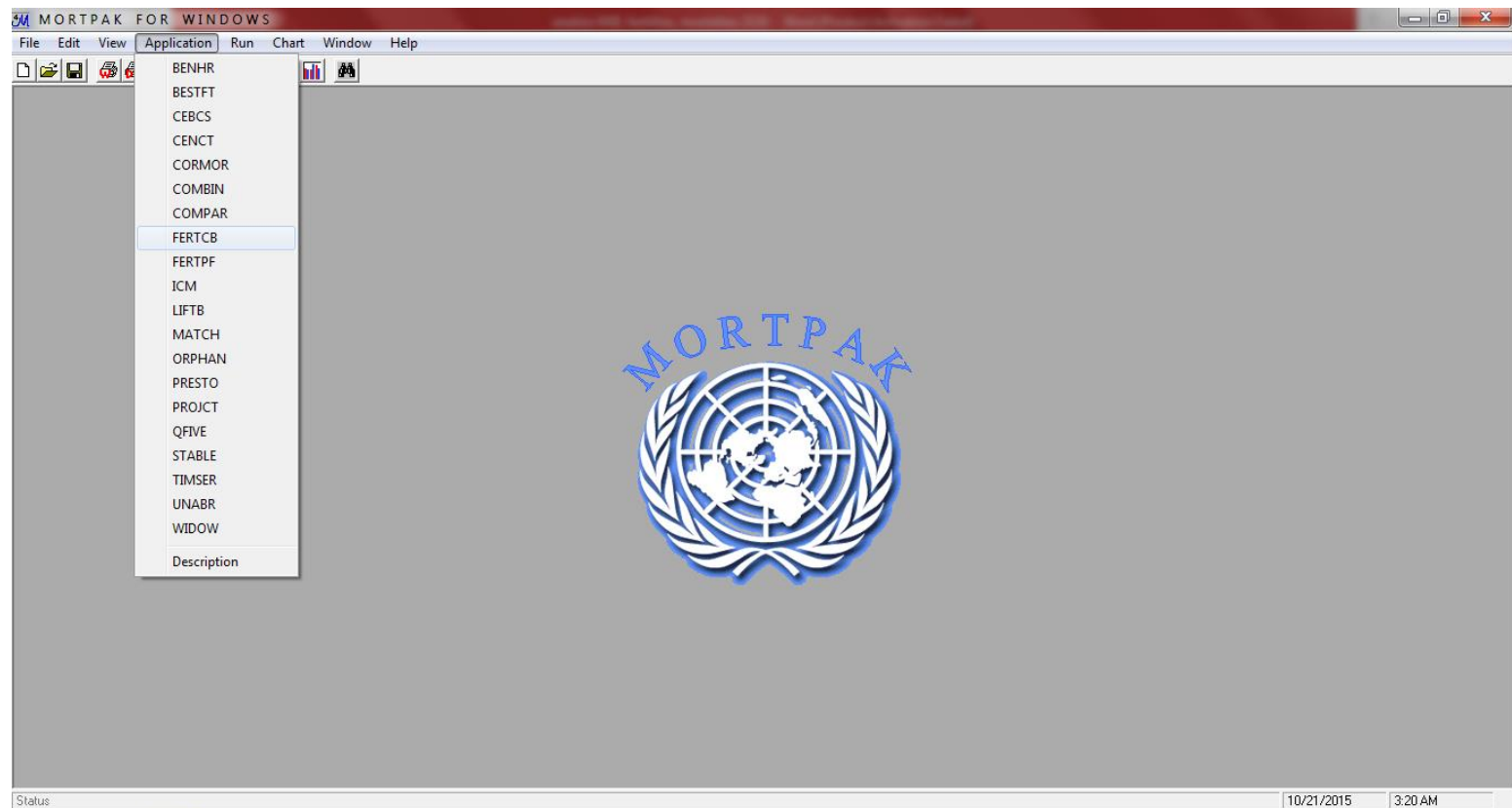




Using Package Program : Mortpak-Lite

2. Calculate *Mean Age of Childbearing*

- Close Box “Getting Started With Mortpak”, then click Application > FERTCB.
- To calculate e_0 , click Application > QVIFE.





Using Package Program : Mortpak-Lite

2. Calculating Mean Age of Childbearing

MORTPAK FOR WINDOWS

File Edit View Application Run Chart Window Help

Selected application is FERTCB (Untitled1)

Input File Name: C:\Program Files\MORTPAK4\Untitled1.MPL
When last updated: 03 November 2015

Data Entry Help
Show Document Output

Estimation of age-specific fertility rates from data on children ever born at one or two points in

First Enumeration		** Optional ** Second Enumeration	
Month	Year	Month	Year

Age Group of Woman Ever Born

Age Group of Woman	Children Ever Born	Age Group of Woman	Children Ever Born
15 - 20		15 - 20	
20 - 25		20 - 25	
25 - 30		25 - 30	
30 - 35		30 - 35	
35 - 40		35 - 40	
40 - 45		40 - 45	
45 - 50		45 - 50	

Selected application is QFIVE (Untitled2)

Input File Name: C:\Program Files\MORTPAK4\Untitled2.MPL
When last updated: 03 November 2015

Data Entry Help
Show Document Output

Estimates of infant mortality and under 5 mortality by applying the two versions of the Brass method: the Trussell

Age Group of Woman	Not defined above	Not defined above	Not defined above
15 - 20			
20 - 25			
25 - 30			
30 - 35			
35 - 40			
40 - 45			
45 - 50			

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Using Package Program : Mortpak-Lite

3. Calculating e0

- On screen FERTCB;
 - Fill in Title with 00 for Indonesia, 11 for Aceh and so on
 - Month = June, Year = 2015 (choosing month and year when data obtained)
 - *Copy* CEB from column “Children Ever Born” (using Ctrl+C, Ctrl+V). Making sure that all input has filled in.
 - then, click Run (Simbool), the data of *Mean Age at Childbearing will be appeared as* input for the next calculating process.
 - The results as follow:



Using Package Program : Mortpak-Lite

3. Menghitung e0

Selected application is FERTCB (Untitled1)

Input File Name: C:\Program Files\MORTPAK4\Untitled.MPL
When last updated: 21 Oktober 2015

Data Entry Help
Show Document Output

Estimation of age-specific fertility rates from data on children ever born at one or two points in time.

TITLE: 00

Arraiga's approach for estimation of ASFR for one point in time (Mortara)

**** Optional ****

First Enumeration			Second Enumeration		
Month	June	Month			
Year	2010	Year			

**** Optional ****

Age Group of Woman	Children Ever Born	Fertility Consistent with C.E.B. (A.S.F.R.)	Age Group of Woman	Children Ever Born
June 2010				
15 - 20	0.47	0,1725	15 - 20	
20 - 25	0.92	0,0436	20 - 25	
25 - 30	1.41	0,1368	25 - 30	
30 - 35	2.05	0,1080	30 - 35	
35 - 40	2.59	0,1132	35 - 40	
40 - 45	3.04	0,0749	40 - 45	
45 - 50	3.49	0,0274	45 - 50	
Mean Age of Childbearing:		26,8118		
Total Fertility Rate:		3,3821		



Using Package Program : Mortpak-Lite

4. Calculating IMR and e0 with QVIFE application

- On QVIFE screen
 - Fill in Title with 00 for national measurement.
 - Month = June, Year = 2015 (projection 2015)
 - Sex = Both Sexes, for calculating e0 Total, for calculating e0 by sex chose “Male” or “Female”.
 - Sex Ratio at Birth = 1.05;
 - Fill in “Mean Age at Childbearing” from output FERTCB;
 - Data Definition, chose “Average number of children ever born and average number of children surviving”.



Penggunaan Paket Program Mortpak-Lite

- Copy average number of children ever born on input table or copy from input that already provided by FERTCB and fill in to column “*Average Number of Children Ever Born*” and copy Average number of children surviving and fill in to column “*Average Number of Children Surviving*” (use Ctrl+V)
- Click Run (Simbool).
- Then come output. As the screen limited then the result will be devided into 2 tables:



Penggunaan Paket Program Mortpak-Lite

4. Menghitung e0 dengan aplikasi QVIFE

- QVIFE (1):

MORTPAK FOR WINDOWS - [Selected application is QVIFE (Untitled2)]

File Edit View Application Run Chart Window Help

Input File Name: C:\Program Files\MORTPAK4\Untitled.MPL
When last updated: 10 March 2016

Estimates of infant mortality and under 5 mortality by applying the two versions of the Brass method: the Trussell version based on the Coale-Demery model life tables and the Palloni-Heligman version based on the United Nations Models (Palloni-Heligman Equations)

Data Entry Help
Show Document Output

United Nations Models (Palloni-Heligman Equations)								Coale-Demery Model (Trussell Equations)									
Latin American		Chilean		South Asian		Far East		General		West		North		East		South	
Ref. Date	q(x)	Ref. Date	q(x)	Ref. Date	q(x)	Ref. Date	q(x)	Ref. Date	q(x)	Ref. Date	q(x)	Ref. Date	q(x)	Ref. Date	q(x)	Ref. Date	q(x)
Infant mortality rate (probability of dying between ages 0 and 1): q...																	
2014.4	Out of range	2014.4	Out of range	2014.4	Out of range	2014.4	Out of range	2014.4	Out of range	2015.0	Out of range	2015.0	Out of range	2015.0	Out of range	2015.0	Out of range
2013.8	0.003	2013.7	0.004	2013.7	0.003	2013.7	0.003	2013.7	0.003	2014.0	0.004	2014.0	0.003	2014.0	0.004	2014.0	0.004
2012.4	0.075	2012.2	0.089	2012.3	0.077	2012.3	0.078	2012.4	0.078	2012.2	0.078	2012.3	0.071	2012.2	0.084	2012.3	0.081
2010.2	0.028	2009.9	0.032	2010.1	0.029	2010.1	0.029	2010.2	0.029	2010.0	0.030	2010.2	0.027	2009.9	0.031	2010.0	0.031
2007.5	0.042	2007.1	0.049	2007.3	0.043	2007.4	0.043	2007.4	0.043	2007.3	0.042	2007.7	0.038	2007.2	0.047	2007.4	0.048
2004.3	0.062	2003.9	0.078	2004.0	0.066	2004.4	0.064	2004.3	0.064	2004.5	0.063	2005.0	0.054	2004.1	0.072	2004.4	0.071
2000.9	0.074	2000.5	0.094	2000.3	0.080	2001.3	0.074	2001.0	0.076	2001.3	0.074	2001.9	0.063	2000.8	0.085	2001.1	0.084
Probability of dying between ages 1 an...																	
2014.4	Out of range	2014.4	Out of range	2014.4	Out of range	2014.4	Out of range	2014.4	Out of range	2015.0	Out of range	2015.0	Out of range	2015.0	Out of range	2015.0	Out of range
2013.8	0.001	2013.7	0.000	2013.7	0.001	2013.7	0.001	2013.7	0.001	2014.0	0.001	2014.0	0.001	2014.0	0.000	2014.0	0.001
2012.4	0.040	2012.2	0.020	2012.3	0.037	2012.3	0.035	2012.4	0.036	2012.2	0.034	2012.3	0.043	2012.2	0.025	2012.3	0.031
2010.2	0.009	2009.9	0.004	2010.1	0.008	2010.1	0.007	2010.2	0.007	2010.0	0.006	2010.2	0.008	2009.9	0.004	2010.0	0.005
2007.5	0.015	2007.1	0.007	2007.3	0.014	2007.4	0.013	2007.4	0.013	2007.3	0.012	2007.7	0.015	2007.2	0.009	2007.4	0.010
2004.3	0.029	2003.9	0.016	2004.0	0.029	2004.4	0.025	2004.3	0.026	2004.5	0.024	2005.0	0.029	2004.1	0.019	2004.4	0.023
2000.9	0.039	2000.5	0.022	2000.3	0.039	2001.3	0.032	2001.0	0.035	2001.3	0.031	2001.9	0.036	2000.8	0.026	2001.1	0.033
Probability of dying by ag...																	
2014.4	Out of range	2014.4	Out of range	2014.4	Out of range	2014.4	Out of range	2014.4	Out of range	2015.0	Out of range	2015.0	Out of range	2015.0	Out of range	2015.0	Out of range
2013.8	0.004	2013.7	0.004	2013.7	0.004	2013.7	0.004	2013.7	0.004	2014.0	0.004	2014.0	0.004	2014.0	0.004	2014.0	0.004
2012.4	0.112	2012.2	0.107	2012.3	0.111	2012.3	0.110	2012.4	0.110	2012.2	0.110	2012.3	0.111	2012.2	0.107	2012.3	0.109
2010.2	0.036	2009.9	0.036	2010.1	0.037	2010.1	0.036	2010.2	0.036	2010.0	0.036	2010.2	0.035	2009.9	0.036	2010.0	0.036
2007.5	0.056	2007.1	0.056	2007.3	0.057	2007.4	0.055	2007.4	0.056	2007.3	0.054	2007.7	0.053	2007.2	0.055	2007.4	0.057
2004.3	0.089	2003.9	0.093	2004.0	0.093	2004.4	0.087	2004.3	0.088	2004.5	0.086	2005.0	0.082	2004.1	0.089	2004.4	0.092
2000.9	0.110	2000.5	0.115	2000.3	0.116	2001.3	0.103	2001.0	0.108	2001.3	0.103	2001.9	0.096	2000.8	0.109	2001.1	0.114

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Start Zimbra: Search results - ... e0 dan IMR makalah bintek kependu... Angka Harapan Hidup.pp... MORTALITAS.pptx - Micr... Microsoft Excel (Product ... MORTPAK FOR ... 2:24 PM



Penggunaan Paket Program Mortpak-Lite

4. Menghitung e0 dengan aplikasi QVIFE

- QVIFE (2):

MORTPAK FOR WINDOWS - [Selected application is QVIFE (Untitled2)]

File Edit View Application Run Chart Window Help

Input File Name: C:\Program Files\MORTPAK4\Untitled.MPL
When last updated: 10 March 2016

Estimates of infant mortality and under 5 mortality by applying the two versions of the Brass method: the Trussell version based on the Coale-Demery model life tables and the Palloni-Heligman version based on the United Nations Models (Palloni-Heligman Equations)

United Nations Models (Palloni-Heligman Equations)								Coale-Demery Model (Trussell Equations)								
Latin American		Chilean		South Asian		Far East		General		West	North		East		South	
Ref. Date	q(x)	Ref. Date	q(x)	Ref. Date	q(x)	Ref. Date	q(x)	Ref. Date	q(x)	Ref. Date	q(x)	Ref. Date	q(x)	Ref. Date	q(x)	
2014.4	Out of range	2014.4	Out of range	2014.4	Out of range	2014.4	Out of range	2014.4	Out of range	2015.0	Out of range	2015.0	Out of range	2015.0	Out of range	
2013.8	0.001	2013.7	0.000	2013.7	0.001	2013.7	0.001	2013.7	0.001	2014.0	0.001	2014.0	0.000	2014.0	0.001	
2012.4	0.040	2012.2	0.020	2012.3	0.037	2012.3	0.035	2012.4	0.036	2012.2	0.034	2012.3	0.043	2012.2	0.025	
2010.2	0.009	2009.9	0.004	2010.1	0.008	2010.1	0.007	2010.2	0.007	2010.0	0.006	2010.2	0.008	2009.9	0.004	
2007.5	0.015	2007.1	0.007	2007.3	0.014	2007.4	0.013	2007.4	0.013	2007.3	0.012	2007.7	0.015	2007.2	0.009	
2004.3	0.029	2003.9	0.016	2004.0	0.029	2004.4	0.025	2004.3	0.026	2004.5	0.024	2005.0	0.029	2004.1	0.019	
2000.9	0.039	2000.5	0.022	2000.3	0.039	2001.3	0.032	2001.0	0.035	2001.3	0.031	2001.9	0.036	2000.8	0.026	
2001.1	0.033															
Probability of dying by ag...																
2014.4	Out of range	2014.4	Out of range	2014.4	Out of range	2014.4	Out of range	2014.4	Out of range	2015.0	Out of range	2015.0	Out of range	2015.0	Out of range	
2013.8	0.004	2013.7	0.004	2013.7	0.004	2013.7	0.004	2013.7	0.004	2014.0	0.004	2014.0	0.004	2014.0	0.004	
2012.4	0.112	2012.2	0.107	2012.3	0.111	2012.3	0.110	2012.4	0.110	2012.2	0.110	2012.3	0.111	2012.2	0.107	
2010.2	0.036	2009.9	0.036	2010.1	0.037	2010.1	0.036	2010.2	0.036	2010.0	0.036	2010.2	0.035	2009.9	0.036	
2007.5	0.056	2007.1	0.056	2007.3	0.057	2007.4	0.055	2007.4	0.056	2007.3	0.054	2007.7	0.053	2007.2	0.055	
2004.3	0.089	2003.9	0.093	2004.0	0.093	2004.4	0.087	2004.3	0.088	2004.5	0.086	2005.0	0.082	2004.1	0.089	
2000.9	0.110	2000.5	0.115	2000.3	0.116	2001.3	0.103	2001.0	0.108	2001.3	0.103	2001.9	0.096	2000.8	0.109	
2001.1	0.114															
Life expectancy at birth: ...																
2014.4	Out of range	2014.4	Out of range	2014.4	Out of range	2014.4	Out of range	2014.4	Out of range	2015.0	Out of range	2015.0	Out of range	2015.0	Out of range	
2013.8	92.274	2013.7	93.263	2013.7	92.935	2013.7	89.191	2013.7	92.885	2014.0	87.191	2014.0	90.000	2014.0	92.482	
2012.4	60.966	2012.2	60.725	2012.3	63.293	2012.3	53.340	2012.4	58.752	2012.2	58.283	2012.3	63.157	2012.2	63.157	
2010.2	75.267	2009.9	74.826	2010.1	76.134	2010.1	68.806	2010.2	73.178	2010.0	69.771	2010.2	74.208	2009.9	76.488	
2007.5	70.666	2007.1	69.892	2007.3	71.737	2007.4	63.937	2007.4	68.488	2007.3	65.523	2007.7	67.844	2007.2	71.736	
2004.3	64.642	2003.9	63.107	2004.0	65.878	2004.4	57.386	2004.3	62.343	2004.5	61.655	2005.0	63.021	2004.1	62.735	
2000.9	61.220	2000.5	59.526	2000.3	62.628	2001.3	54.506	2001.0	59.057	2001.3	59.296	2001.9	60.798	2000.8	60.278	
2001.1	62.526															

Hitung rata-rata untuk mendapatkan nilai e0

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Start | Zimbra: Search results - ... | e0 dan IMR | makalah bintek kendu... | Angka Harapan Hidup.pp... | MORTALITAS.pptx - Micr... | Microsoft Excel (Product ... | MORTPAK FOR ...



Penggunaan Paket Program Mortpak-Lite

4. Calculating IMR and e_0 with QVIFE application

From the Output above (QVIFE(2)), the number of (e_0) is obtained by average q_2 , q_3 , and q_5 Coale-Demeny Model (Trussell Equations) model West $q(x)$ for Life Expectancy at Birth.



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