

# Historic Modelling

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July 27, 2019

Table # 4a						
First Regression: Historical Coefficients						
	Dispersion Coefficient $m$		Modal Value $b$		Log Hazard Rate $\ln(h)$	
Year	MALE	FEMALE	MALE	FEMALE	MALE	FEMALE
1960	<b>77.71</b> $\pm 1.68$	<b>81.87</b> $\pm 0.77$	<b>10.31</b> $\pm 0.65$	<b>9.08</b> $\pm 0.42$	<b>-9.90</b> $\pm 0.55$	<b>-11.24</b> $\pm 0.37$
1963	<b>77.39</b> $\pm 1.62$	<b>81.91</b> $\pm 0.79$	<b>10.35</b> $\pm 0.56$	<b>9.10</b> $\pm 0.44$	<b>-9.84</b> $\pm 0.49$	<b>-11.23</b> $\pm 0.39$
1966	<b>77.66</b> $\pm 1.65$	<b>82.47</b> $\pm 0.89$	<b>10.45</b> $\pm 0.55$	<b>9.12</b> $\pm 0.40$	<b>-9.80</b> $\pm 0.47$	<b>-11.26</b> $\pm 0.34$
1969	<b>77.52</b> $\pm 1.69$	<b>82.59</b> $\pm 0.87$	<b>10.56</b> $\pm 0.48$	<b>9.31</b> $\pm 0.45$	<b>-9.71</b> $\pm 0.43$	<b>-11.12</b> $\pm 0.35$
1972	<b>78.04</b> $\pm 1.40$	<b>83.30</b> $\pm 0.71$	<b>10.55</b> $\pm 0.46$	<b>9.25</b> $\pm 0.47$	<b>-9.77</b> $\pm 0.39$	<b>-11.25</b> $\pm 0.40$
1975	<b>78.22</b> $\pm 1.31$	<b>83.80</b> $\pm 0.60$	<b>10.51</b> $\pm 0.46$	<b>9.29</b> $\pm 0.52$	<b>-9.81</b> $\pm 0.38$	<b>-11.27</b> $\pm 0.42$
1978	<b>78.70</b> $\pm 1.10$	<b>84.51</b> $\pm 0.59$	<b>10.53</b> $\pm 0.47$	<b>9.24</b> $\pm 0.57$	<b>-9.84</b> $\pm 0.36$	<b>-11.40</b> $\pm 0.48$
1981	<b>79.16</b> $\pm 1.01$	<b>84.89</b> $\pm 0.71$	<b>10.37</b> $\pm 0.43$	<b>9.22</b> $\pm 0.57$	<b>-9.99</b> $\pm 0.34$	<b>-11.46</b> $\pm 0.50$
1984	<b>79.77</b> $\pm 0.96$	<b>85.48</b> $\pm 0.72$	<b>10.30</b> $\pm 0.43$	<b>9.25</b> $\pm 0.50$	<b>-10.09</b> $\pm 0.35$	<b>-11.49</b> $\pm 0.46$
1987	<b>80.22</b> $\pm 0.93$	<b>85.81</b> $\pm 0.86$	<b>10.22</b> $\pm 0.38$	<b>9.21</b> $\pm 0.52$	<b>-10.19</b> $\pm 0.33$	<b>-11.56</b> $\pm 0.50$
1990	<b>80.74</b> $\pm 1.00$	<b>86.08</b> $\pm 1.00$	<b>9.96</b> $\pm 0.38$	<b>9.05</b> $\pm 0.54$	<b>-10.42</b> $\pm 0.34$	<b>-11.74</b> $\pm 0.55$
1993	<b>81.32</b> $\pm 1.11$	<b>86.41</b> $\pm 1.21$	<b>9.72</b> $\pm 0.35$	<b>8.95</b> $\pm 0.47$	<b>-10.65</b> $\pm 0.34$	<b>-11.87</b> $\pm 0.50$
1996	<b>81.93</b> $\pm 1.13$	<b>86.91</b> $\pm 1.16$	<b>9.62</b> $\pm 0.48$	<b>9.01</b> $\pm 0.52$	<b>-10.81</b> $\pm 0.47$	<b>-11.88</b> $\pm 0.58$
1999	<b>82.32</b> $\pm 1.09$	<b>87.21</b> $\pm 1.16$	<b>9.50</b> $\pm 0.53$	<b>9.02</b> $\pm 0.41$	<b>-10.94</b> $\pm 0.50$	<b>-11.89</b> $\pm 0.48$
2002	<b>83.03</b> $\pm 1.04$	<b>87.60</b> $\pm 1.26$	<b>9.46</b> $\pm 0.55$	<b>9.00</b> $\pm 0.39$	<b>-11.05</b> $\pm 0.51$	<b>-11.94</b> $\pm 0.45$
2005	<b>83.74</b> $\pm 1.05$	<b>88.38</b> $\pm 1.09$	<b>9.46</b> $\pm 0.62$	<b>9.04</b> $\pm 0.38$	<b>-11.13</b> $\pm 0.57$	<b>-11.99</b> $\pm 0.44$
2008	<b>84.34</b> $\pm 0.99$	<b>88.78</b> $\pm 1.10$	<b>9.46</b> $\pm 0.64$	<b>9.05</b> $\pm 0.37$	<b>-11.20</b> $\pm 0.59$	<b>-12.03</b> $\pm 0.41$
2011	<b>85.07</b> $\pm 0.90$	<b>89.35</b> $\pm 1.12$	<b>9.43</b> $\pm 0.59$	<b>9.11</b> $\pm 0.33$	<b>-11.29</b> $\pm 0.54$	<b>-12.03</b> $\pm 0.34$
Source: Human Mortality Database, Period 1960-2011, 11 Countries						

Table # 4b						
CLaM Regression: Historical Coefficients						
	Slope: $(x^*)$		Intercept $(L)$		Mortality Rate $(G)$	
Year	MALE	FEMALE	MALE	FEMALE	MALE	FEMALE
1960	<b>90.14</b> $\pm 4.46$	<b>72.31</b> $\pm 5.86$	<b>-1.13</b> $\pm 0.44$	<b>-3.26</b> $\pm 0.65$	0.0974	0.1103
1963	<b>91.52</b> $\pm 5.20$	<b>73.78</b> $\pm 5.63$	<b>-0.97</b> $\pm 0.50$	<b>-3.10</b> $\pm 0.62$	0.0969	0.1101
1966	<b>91.65</b> $\pm 6.23$	<b>69.20</b> $\pm 6.88$	<b>-1.01</b> $\pm 0.60$	<b>-3.67</b> $\pm 0.76$	0.0959	0.1098
1969	<b>96.60</b> $\pm 6.83$	<b>66.94</b> $\pm 5.94$	<b>-0.55</b> $\pm 0.65$	<b>-3.91</b> $\pm 0.64$	0.0948	0.1076
1972	<b>93.17</b> $\pm 6.01$	<b>73.19</b> $\pm 4.85$	<b>-0.92</b> $\pm 0.57$	<b>-3.32</b> $\pm 0.53$	0.0949	0.1084
1975	<b>89.72</b> $\pm 6.52$	<b>72.66</b> $\pm 3.78$	<b>-1.26</b> $\pm 0.62$	<b>-3.43</b> $\pm 0.41$	0.0953	0.1080
1978	<b>86.51</b> $\pm 5.28$	<b>75.62</b> $\pm 3.30$	<b>-1.61</b> $\pm 0.50$	<b>-3.19</b> $\pm 0.36$	0.0951	0.1086
1981	<b>85.85</b> $\pm 5.71$	<b>76.76</b> $\pm 3.84$	<b>-1.69</b> $\pm 0.55$	<b>-3.11</b> $\pm 0.42$	0.0966	0.1089
1984	<b>87.18</b> $\pm 4.75$	<b>80.96</b> $\pm 4.08$	<b>-1.61</b> $\pm 0.46$	<b>-2.71</b> $\pm 0.44$	0.0972	0.1084
1987	<b>87.28</b> $\pm 5.67$	<b>83.79</b> $\pm 4.44$	<b>-1.63</b> $\pm 0.56$	<b>-2.44</b> $\pm 0.48$	0.0980	0.1089
1990	<b>87.42</b> $\pm 6.48$	<b>86.51</b> $\pm 4.47$	<b>-1.63</b> $\pm 0.65$	<b>-2.16</b> $\pm 0.50$	0.1005	0.1108
1993	<b>86.59</b> $\pm 8.69$	<b>86.91</b> $\pm 7.01$	<b>-1.73</b> $\pm 0.90$	<b>-2.14</b> $\pm 0.79$	0.1030	0.1120
1996	<b>89.70</b> $\pm 4.68$	<b>91.17</b> $\pm 4.68$	<b>-1.46</b> $\pm 0.49$	<b>-1.73</b> $\pm 0.52$	0.1042	0.1114
1999	<b>86.88</b> $\pm 4.70$	<b>96.05</b> $\pm 5.78$	<b>-1.77</b> $\pm 0.50$	<b>-1.22</b> $\pm 0.64$	0.1055	0.1111
2002	<b>83.87</b> $\pm 5.02$	<b>91.13</b> $\pm 8.47$	<b>-2.16</b> $\pm 0.53$	<b>-1.81</b> $\pm 0.94$	0.1061	0.1112
2005	<b>84.46</b> $\pm 4.31$	<b>92.57</b> $\pm 7.07$	<b>-2.17</b> $\pm 0.46$	<b>-1.74</b> $\pm 0.78$	0.1061	0.1108
2008	<b>84.36</b> $\pm 3.89$	<b>88.65</b> $\pm 8.33$	<b>-2.25</b> $\pm 0.41$	<b>-2.22</b> $\pm 0.92$	0.1061	0.1107
2011	<b>83.72</b> $\pm 4.14$	<b>80.95</b> $\pm 10.39$	<b>-2.39</b> $\pm 0.44$	<b>-3.13</b> $\pm 1.14$	0.1064	0.1100
<i>Source: Human Mortality Database, Period 1960-2011, 11 Countries</i>						