

Foxpro Database Professional Competitive Position™ Market Report

Title	Page
Preliminaries	
Table of Contents	1
Copyright, Address and Disclaimers	2
Welcome Letter	3
Salary Characteristics of the Job Market	
Characteristics of the Sample Data	4
Sample Salary and Experience Averages and Variance	5
Equation of the Expected Salary Offer	6
Expected Salary Offer for Each Year of Required Experience Standard	7
When Access or dBase is also listed in a want ad	8
Extreme Salary Offers	
1 Year of Required Experience	9
2 Years of Required Experience	10
3 Years of Required Experience	11
4 Years of Required Experience	12
5 Years of Required Experience	13
Reference	
Graph Reference: Expected Salary Offer per Year of Experience	14
Graph Reference: Extreme Salary Offers	15
Statistical Test Results	16
Heteroscedasticity Correction	17

Copyright © 1997, 1998 by Whole Root™ Economic Research, Inc.
All rights reserved.

Whole Root™ Economic Research, Inc
P.O. Box 603
South Glastonbury, CT 06073

<http://www.wholeroot.com/>

Toll Free: 1-888-413-1792
Fax: (860) 659-1792
E-mail: reports@wholeroot.com

This License allows a **single user** to store, backup and print this
Competitive Position™ Market Report.

You must reproduce the Whole Root™ Economic Research, Inc. copyright notice on all
prints.

You may not modify, network, sell, subscribe, loan, electronically transfer or distribute this
Competitive Position™ Market Report in whole or in part.

Whole Root™ Economic Research, Inc. has carried out the Competitive Position™ Market
Analysis and prepared the Competitive Position™ Market Report according to accepted
statistical standards. The statistics present information about the data source. Possible biases
and other errors may exist within the data source that Whole Root™ Economic Research, Inc.
is not responsible for. Individual job placements can not be identified. Job placement and/or
salary improvement is not guaranteed nor offered.

The New York Times and the Washington Post are not associated with, do not endorse, and
are not responsible for Competitive Position™ Market Analysis, Competitive Position™
Market Reports or Whole Root™ Economic Research in anyway.

Computer hardware and/or software firms are not associated with, do not endorse, and are
not responsible for Competitive Position™ Market Analysis, Competitive Position™ Market
Reports or Whole Root™ Economic Research in anyway.

Welcome

I established Whole Root™ Economic Research, Inc. in 1996 to provide extensive market analysis to individual decision makers. My Competitive Position™ Market Reports enable individuals to assess salary opportunities and set employment goals. It is the first affordable market analysis designed specifically to assist all participants in the job marketplace. Whether you are a computer professional, data processing manager or human resource professional, I hope you find this material useful.

Thank you,

Robert Gerald Vivona
Economic Statistician

Toll Free: 1-888-413-1792

Fax: (860) 659-1792

E-mail: bob@wholeroot.com

A Special Thanks to:

Nicholas Vivona
Computer Industry Consultant

Foxpro Database Professional Characteristics of Sample Data

Sample Source: The **New York Times** Sunday Employment section
Dates: the 52 weeks (1 Year) from January 5 through December 28, 1997

Number of Classified Want Ads: 54

Qualifications listed in the Want Ads

	To be Included Each Want Ad Must Have	Salary Effectd When Listed	Salary Not Effectd when Listed
Responsibility	Database Designer/Developer, Analyst, Maintenance, Programmer, Support or Coordinator		Coordinate, Maintain or Support = 10 Designer/Developer = 20
Hardware / OS			
Language			Visual Foxpro = 12
Database	Foxpro	and Access/dBase = 15	
Network			
MIS Software			
Industry			Fortune 500 = 6

Job Description

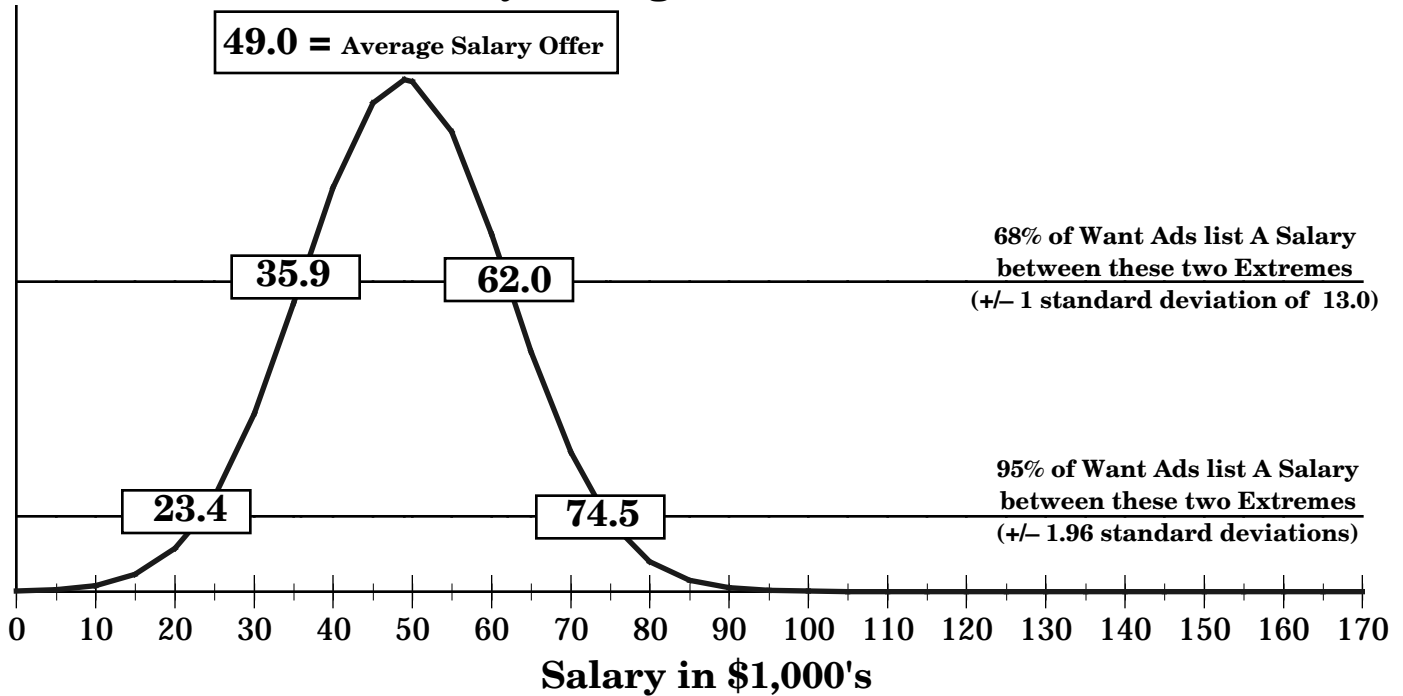
- Develops a Relational Model of the application's requirements.
- Applies database technologies: access security, data integrity, transaction management, locking, stored procedures, triggers, query optimization and data replication
- Assists in the creation and maintenance of database definitions and tables. Designs and implements queries to optimize performance
- Tunes database application to desired performance

Foxpro Database Professional Sample Averages and Distributions

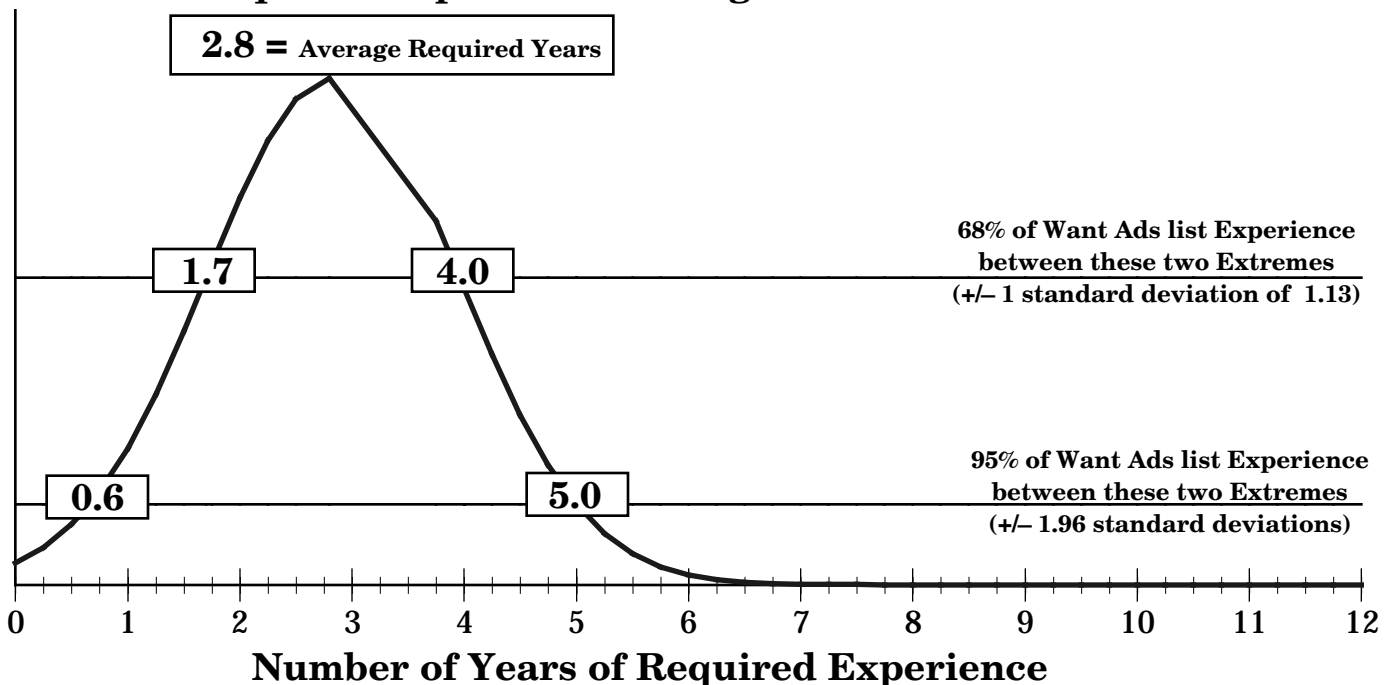
Sample Size: 54 Want Ads

Sample Source: The New York Times
Sunday Employment section 52 Weeks from
January 5 through December 28, 1997

Salary Average and Distribution



Required Experience Average and Distribution



Foxpro Database Professional

The Equation of the Expected Salary Offer

Salary offers are lowest at entry level, increase rapidly with the first years of experience and approach a ceiling as experience matures.

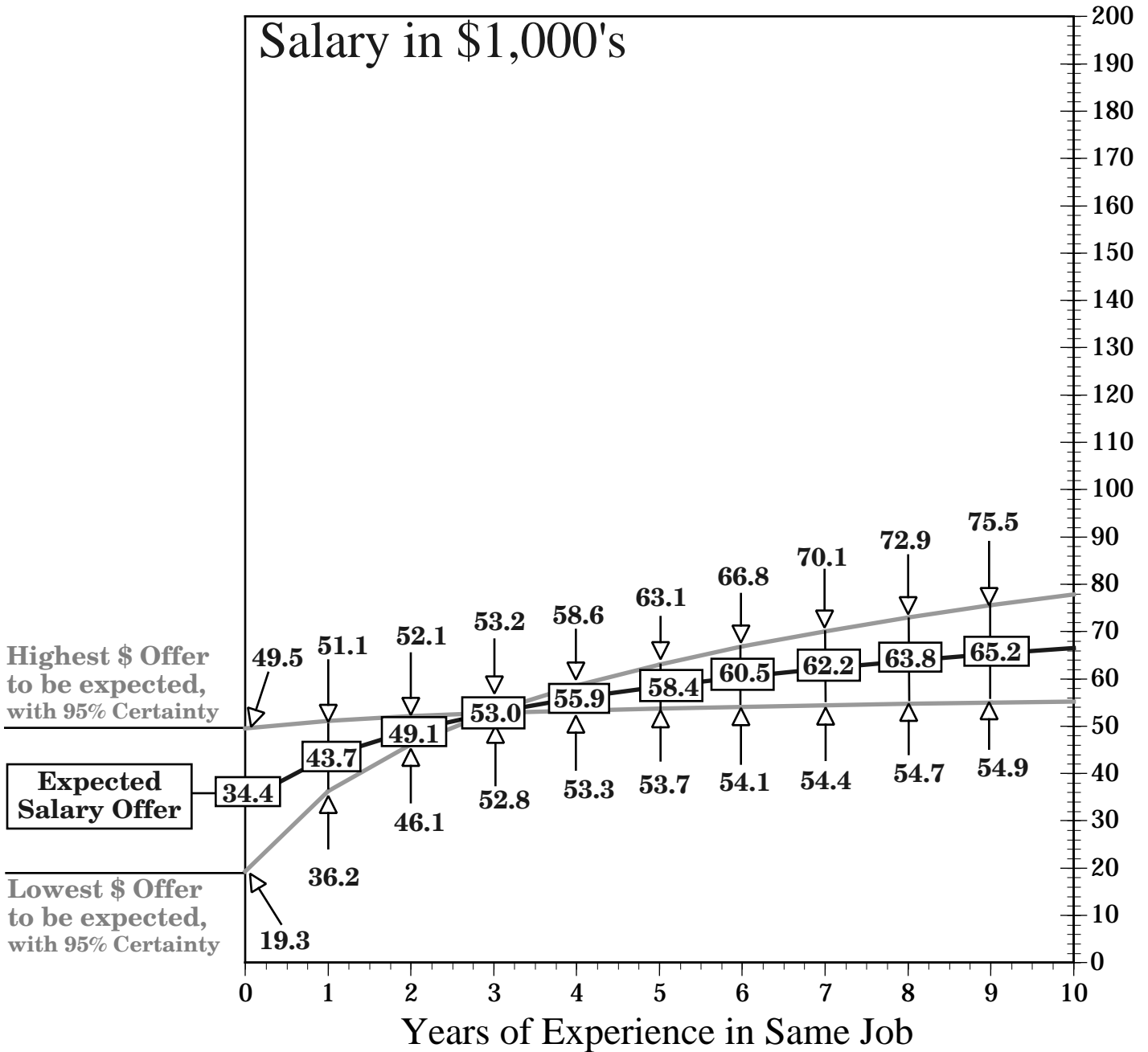
Salary offers were smaller when Access/dBase was listed in the want ad.

		Entry Level		Access/dBase		Year of Experience
				Effect on Salary Offer only when listed in position description		Dollars per Year Multiplied by Natural Logarithm of Number of Years + 1 for entry level
Expected Salary Offer	=	\$34.4	-	\$10.3 (if Access/dBase) or 0	+	\$13.4 ln(Years + 1)
First 95% Confidence Bound of Expected Salary Offer	=	\$49.5	-	\$17.3 (if Access/dBase) or 0	+	\$2.4 ln(Years + 1)
Second 95% Confidence Bound of Expected Salary Offer	=	\$19.3	-	\$3.2 (if Access/dBase) or 0	+	\$24.4 ln(Years + 1)

The first and second bounds are constructed from the upper and lower 95% confidence intervals of the variables presented above. The Expected Salary Offer Graphs present the minimum confidence interval of the equation.

Foxpro Database Professional

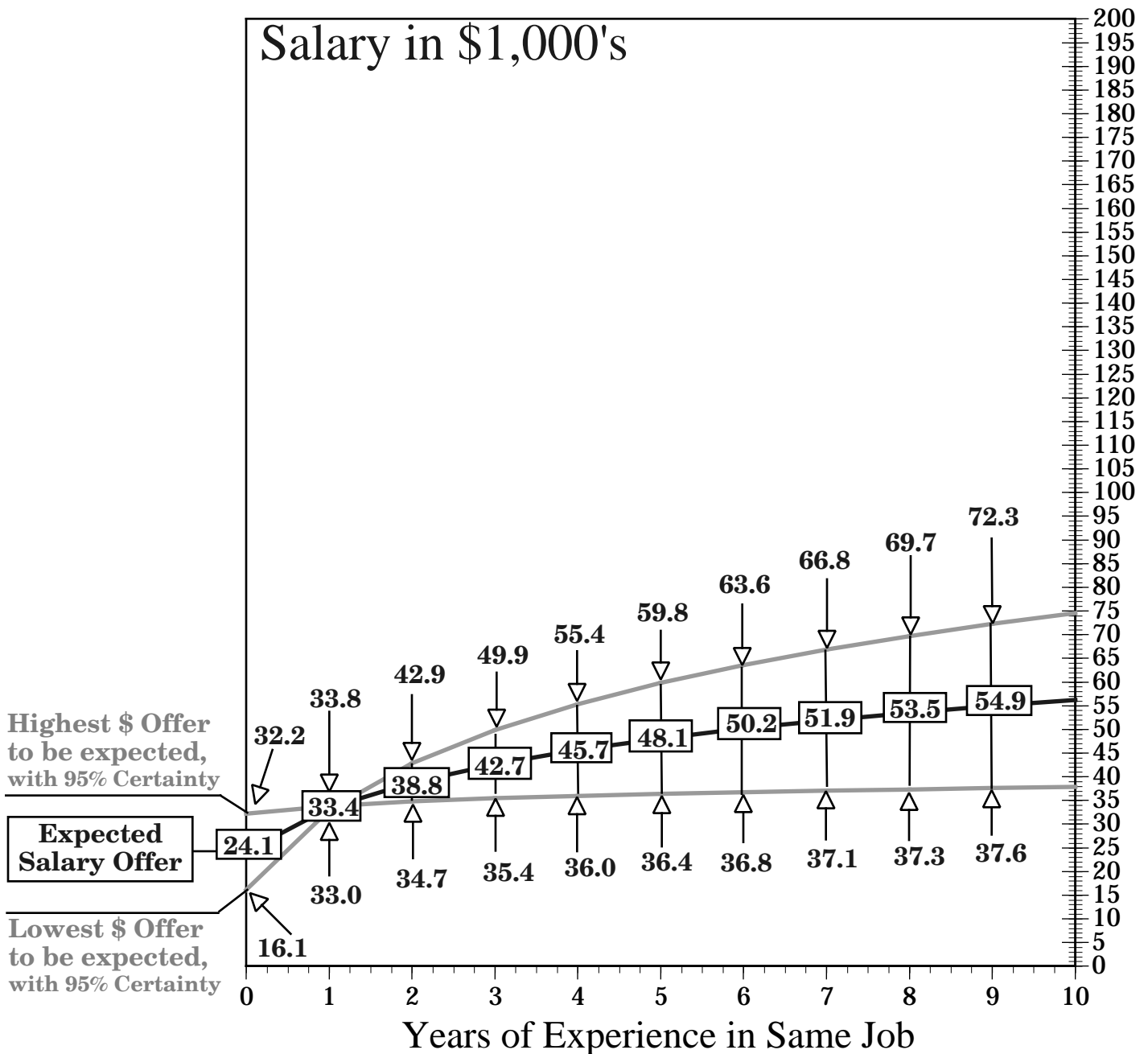
The Expected Salary Offer
& its 95% Probability Range
for Each Year of Required Experience



Sample Source: The New York Times
Sunday Employment section 52 Weeks from
January 5 through December 28, 1997

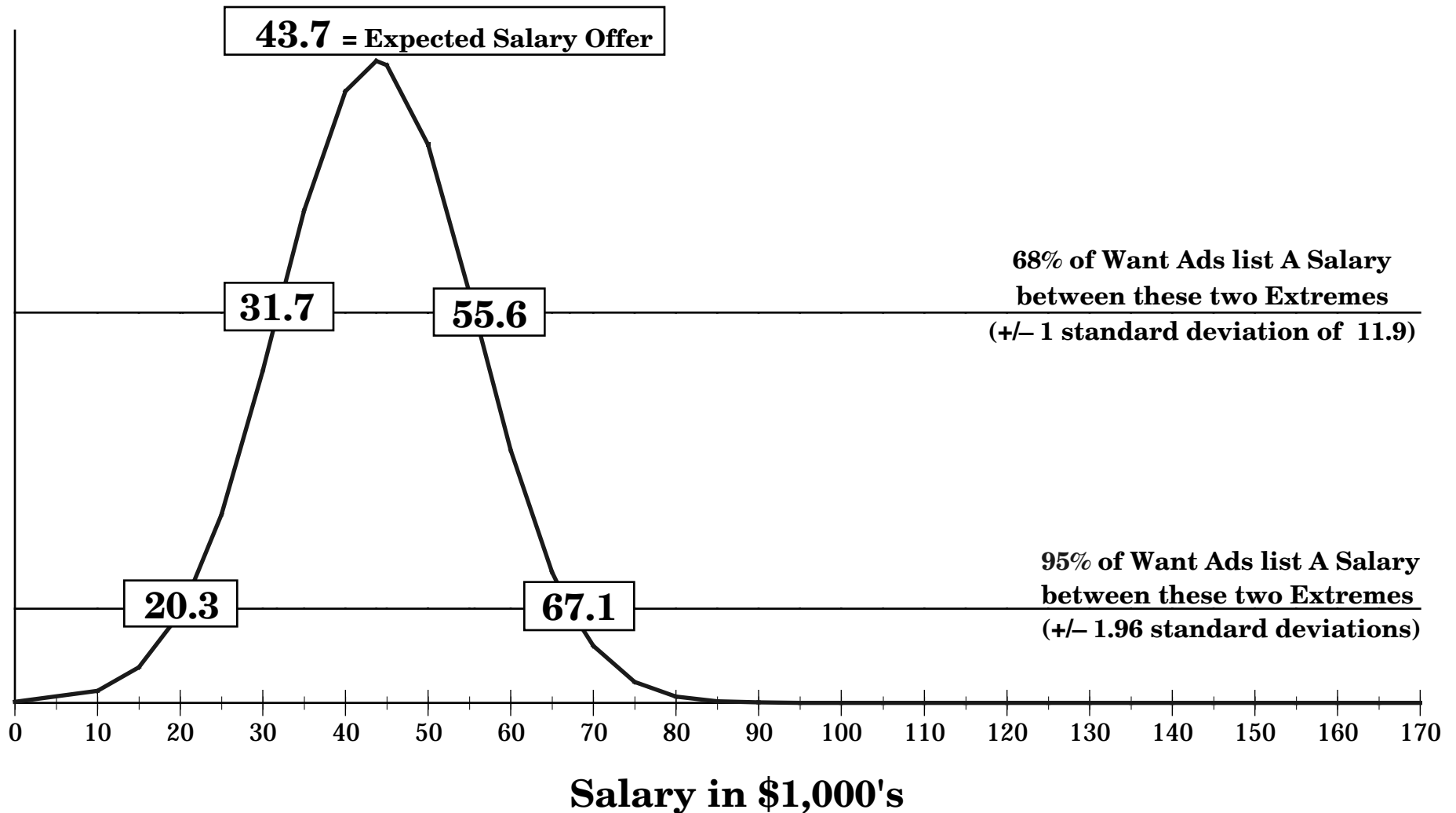
Foxpro, Access or d/Base Database Professional

The Expected Salary Offer
& its 95% Probability Range
for Each Year of Required Experience



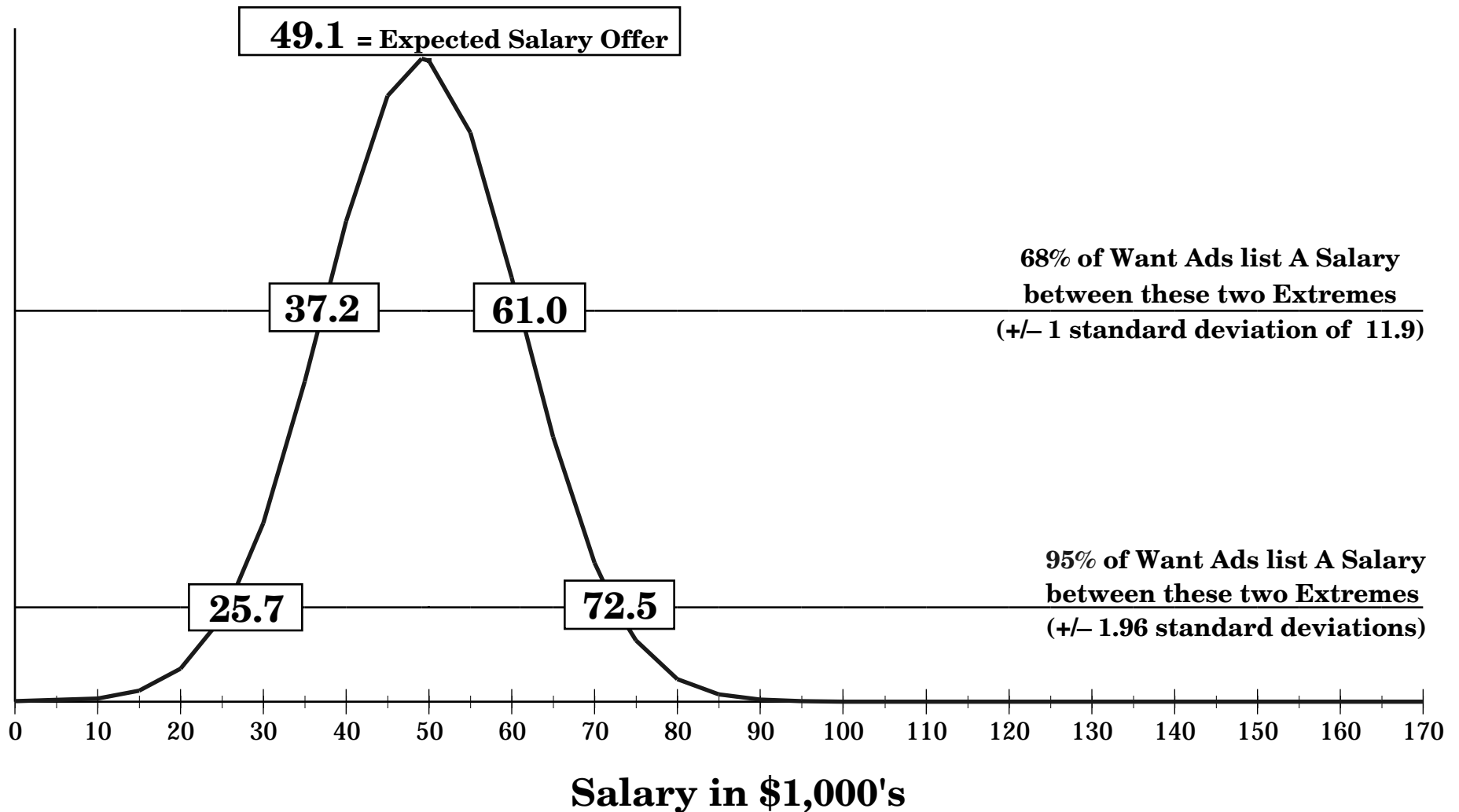
Sample Source: The New York Times
Sunday Employment section 52 Weeks from
January 5 through December 28, 1997

Foxpro Database Professional Extreme Salary Offers: 1 Year of Required Experience



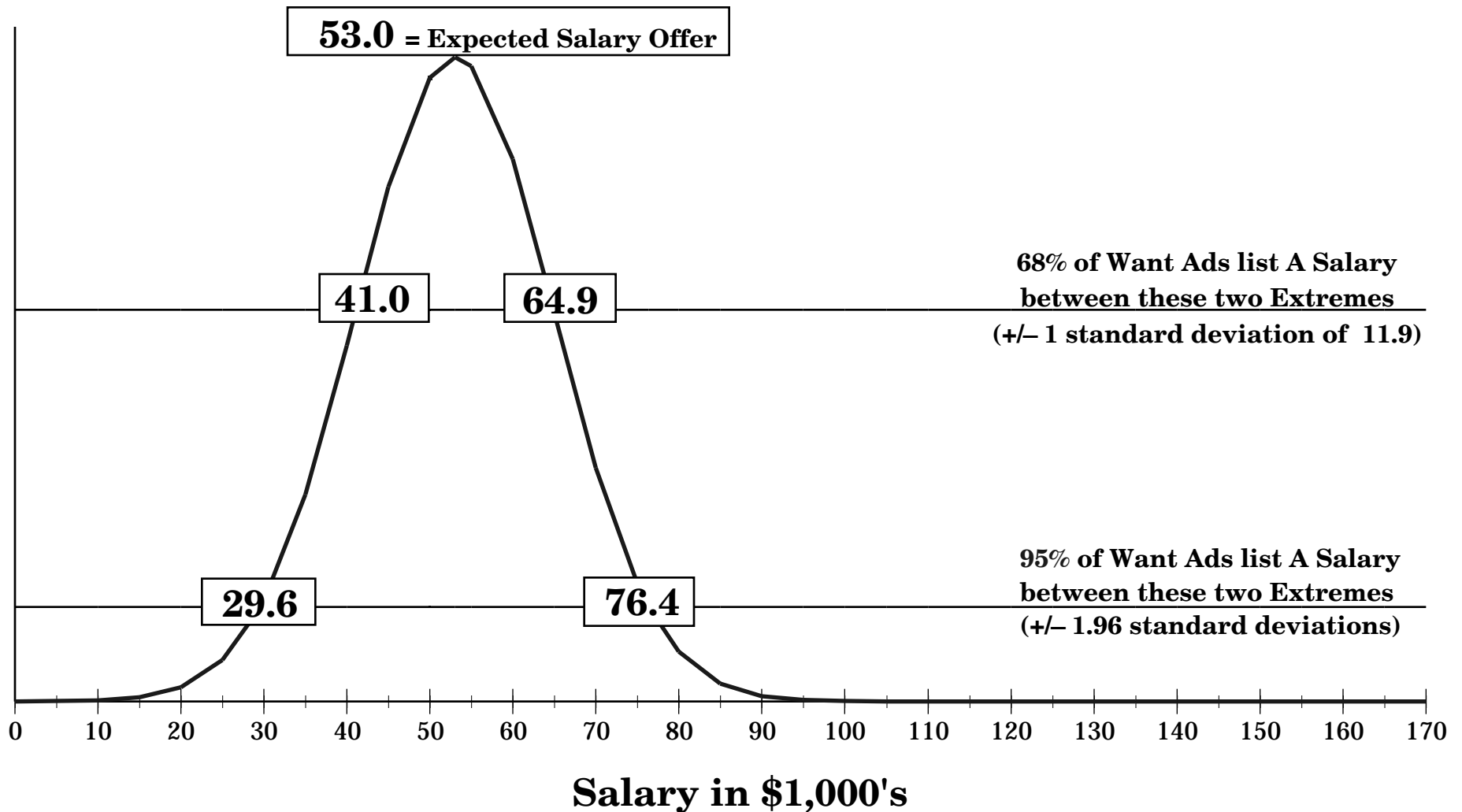
**Sample Source: The New York Times
Sunday Employment section 52 Weeks from
January 5 through December 28, 1997**

Foxpro Database Professional Extreme Salary Offers: 2 Years of Required Experience



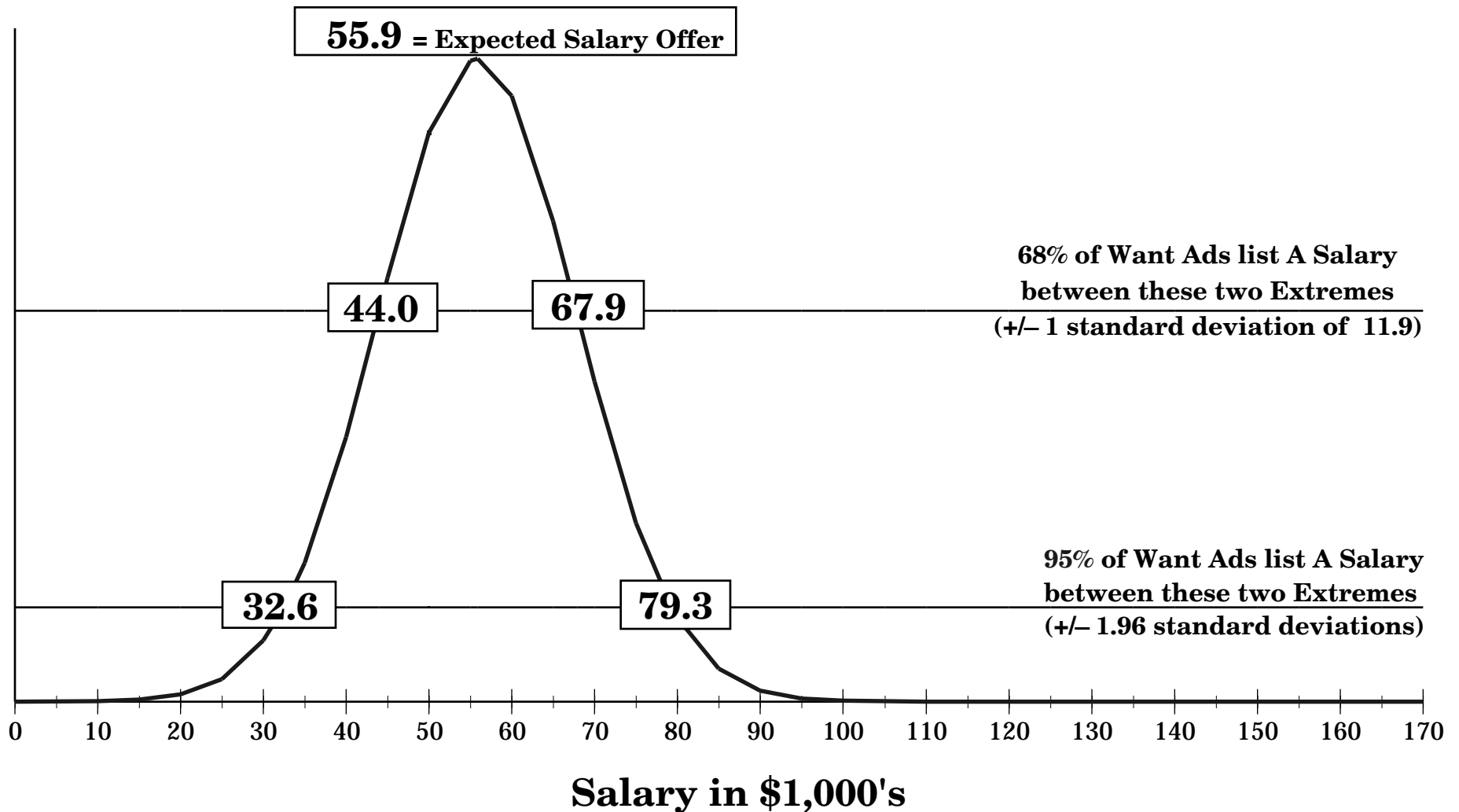
**Sample Source: The New York Times
Sunday Employment section 52 Weeks from
January 5 through December 28, 1997**

Foxpro Database Professional Extreme Salary Offers: 3 Years of Required Experience



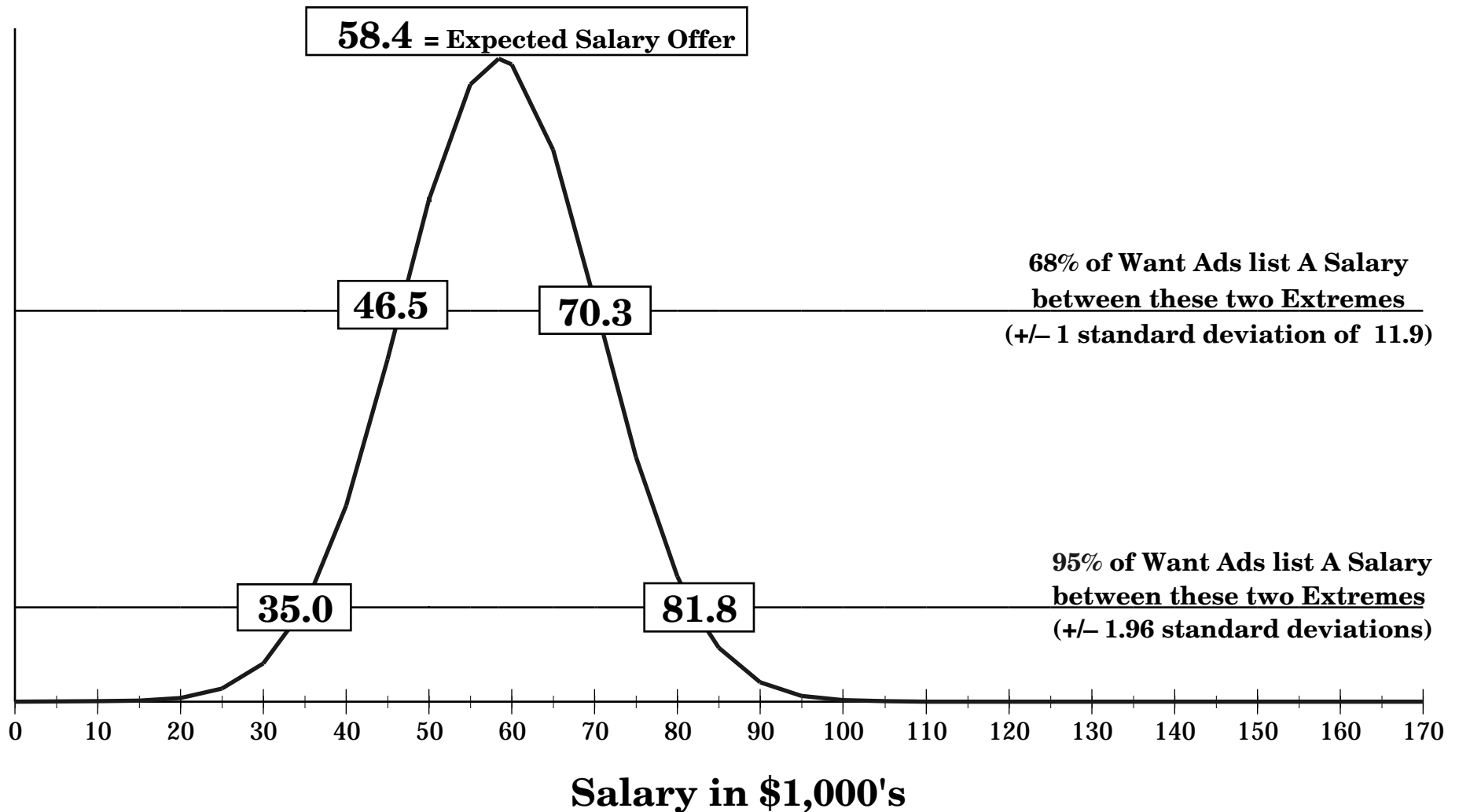
**Sample Source: The New York Times
Sunday Employment section 52 Weeks from
January 5 through December 28, 1997**

Foxpro Database Professional Extreme Salary Offers: 4 Years of Required Experience



**Sample Source: The New York Times
Sunday Employment section 52 Weeks from
January 5 through December 28, 1997**

Foxpro Database Professional Extreme Salary Offers: 5 Years of Required Experience



**Sample Source: The New York Times
Sunday Employment section 52 Weeks from
January 5 through December 28, 1997**

Graph Reference: Expected Salary Offer per Year of Experience

The Middle Black Line

This line depicts the expected salary offer for each year of required experience calculated from the sample of want ads.

The expected salary for each year of required experience is shown in a box on the line.

The expected salary is the most likely, and the average, salary offered.

The 95% Probability Lines Infer the Expected Salary Offer for the Entire Job Market

The sample of classified want ads enables inferences to be made concerning the entire job market for this position.

The gray lines above and below the middle black line present the Highest and Lowest salary offers that can be expected in the entire job market.

There is a 95% certainty that the average salary offer, within the entire job market for this position, lies between the High and the Low numbers that point to the gray lines at each year of required experience.

Please Note:

All three curves cross at the central tendency point.

The further the number of years of required experience is from the central tendency point, the larger the 95% probability region of the expected salary offer.

Graph Reference: Extreme Salary Offers

There are 3 statistics presented in this graph

Each statistic presents an assessment of the likelihood or frequency of a salary offer occurring:

= **Expected Salary Offer**

The expected salary offer is the most likely salary offer as calculated from the sample of want ads

68% of Want Ads list a Salary between these two Extremes (+/- 1 standard deviation)

The 68% probability extreme indicates the boundaries where salary offers become infrequent for the entire job market

95% of Want Ads list a Salary between these two Extremes (+/- 1.96 standard deviations)

The 95% probability extreme indicates the boundaries where salary offers become extremely infrequent for the entire job market

Extreme Salaries

The 68% Probability Extremes:

Salary offers are unlikely above or below this range

Two Thirds (68%) of salary offers are in this range

Only 1/6th (16%) of salary offers are greater than the high number

Only 1/6th (16%) of salary offers are less than the low number

The 68% confidence interval is constructed by taking one standard deviation then adding it to and subtracting it from the expected salary offer

The 95% Probability Extremes

Salary offers are extremely unlikely above or below this range

95% of salary offers are in this range

Only 2.5% of salary offers are greater than the high number

Only 2.5% of salary offers are less than the low number

The 95% confidence interval is constructed by multiplying the standard deviation by 1.96 then adding it to and subtracting it from the expected salary offer

For the complete presentation of the expected salary offer please see the "Expected Salary Offer per Year of Experience" graph.

Foxpro Database Professional

Statistical Test Results

Regression Corrected for Heteroscedasticity

Regression Summary
Salary (H adj) vs. 3 Independents

Count	54
Num. Missing	0
R	.975
R Squared	.951
Adjusted R Squared	.948
RMS Residual	2.306

The expected salary offer line was corrected for heteroscedasticity (please view the Heteroscedasticity Correction page for specifics). A consequence of correctly accounting for the relationship within the variance is that the R Squared statistic is no longer accurate. The variation around the mean salary offer has been altered to correctly calculate the expected salary offer line with all available information.

The variability of salary offers around the Expected Salary Offer line is depicted in the 95% Probability Range of the expected salary offer and in the Extreme Salary Offer Graphs.

The R Squared statistic calculates the percentage of the variation in salary offers away from the mean salary offer, explained by the expected salary offer line. An R Squared statistic of 1 would indicate that the expected salary offer line would be the only salary offered in the marketplace. A reasonable degree of variability should be expected due to the many factors influencing individual want ads.

ANOVA Table
Salary (H adj) vs. 3 Independents

	DF	Sum of Squares	Mean Square	F-Value	P-Value
Regression	3	5304.770	1768.257	332.471	<.0001
Residual	51	271.245	5.319		
Total	54	5576.015			

Regression Coefficients
Salary (H adj) vs. 3 Independents

	Coefficient	Std. Error	Std. Coeff.	t-Value	P-Value
Entry Level (H adj)	34.405	7.512	.521	4.580	<.0001
Access/dBase (H adj)	-10.292	3.508	-.233	-2.934	.0050
ln(Years+1) (H adj)	13.385	5.490	.342	2.438	.0183

The statistical significance tests indicate a high level of quality for the expected salary offer numbers:

1. There is less than a .01% (one ten-thousandth) chance that there is no relationship between salary offers and experience requirements (P-Value in ANOVA Table).
2. There is less than a .01% (one ten-thousandth) chance that the entry level salary offer can't be defined (Entry Level P-Value in Regression Coefficients Table).
3. There is a 1.83% chance that the yearly increase in salary offer can't be defined (ln(Years+1) P-Value in Regression Coefficients Table).
4. There is a .5% (5 one-thousandth) chance that the Access/dBase effect can't be defined (Access/dBase P-Value in Regression Coefficients Table).

Foxpro Database Professional Heteroscedasticity Correction

Heteroscedasticity Regression Test

Dependent Variable = $\ln(\text{Resid}^2)$ Independent Variable = $\ln(\text{Week})$

The variation in salary offers above and below the expected salary line increases at a decreasing rate as the years of experience increase.

This additional information is factored into the analysis by dividing all columns by:

$$(e^{(1.822 + 0.586 * \ln(\text{Week}))})^{.5}$$

When each want ad is weighted by its dependent effect on the variance, an unbiased expected salary offer line with constant variance is derived.

Test Results

R ² Statistic		F Statistic					
Count	54	DF	Sum of Squares	Mean Square	F-Value	P-Value	
Num. Missing	0	Regression	1	16.639	16.639	3.814	.0562
R	.261	Residual	52	226.833	4.362		
R Squared	.068	Total	53	243.472			
Adjusted R Squared	.050						
RMS Residual	2.089						

t Statistics					
	Coefficient	Std. Error	Std. Coeff.	t-Value	P-Value
Intercept	1.822	.855	1.822	2.132	.0377
$\ln(\text{Week})$.586	.300	.261	1.953	.0562

Original Regression Test Results with Heteroscedasticity

R ² Statistic		F Statistic					
Count	54	DF	Sum of Squares	Mean Square	F-Value	P-Value	
Num. Missing	0	Regression	2	1732.270	866.135	6.078	.0043
R	.439	Residual	51	7267.655	142.503		
R Squared	.192	Total	53	8999.926			
Adjusted R Squared	.161						
RMS Residual	11.937						

t Statistics					
	Coefficient	Std. Error	Std. Coeff.	t-Value	P-Value
Intercept	34.302	7.920	34.302	4.331	<.0001
Access/dBase	-9.170	3.633	-.318	-2.524	.0148
$\ln(\text{Years}+1)$	13.196	5.849	.284	2.256	.0284

95% Confidence Intervals			
	Coefficient	95% Lower	95% Upper
Intercept	34.302	18.402	50.201
Access/dBase	-9.170	-16.463	-1.877
$\ln(\text{Years}+1)$	13.196	1.453	24.939