

Price Factors and Sales Trends Affecting the Mid-Atlantic Thoroughbred Market

Fact Sheet 665

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During the past decade, the market for Thoroughbreds has been highly erratic. A great deal has been written and said about the factors that caused the market gyrations, such as tax codes, purses, foreign investment, and so forth. Such are the external forces that influence Thoroughbred prices, but what about the internal factors, such as ancestry, sex, month of foaling, and nomination to restricted races, that affect the price buyers are willing to pay for a specific animal?

Research on Price Determination

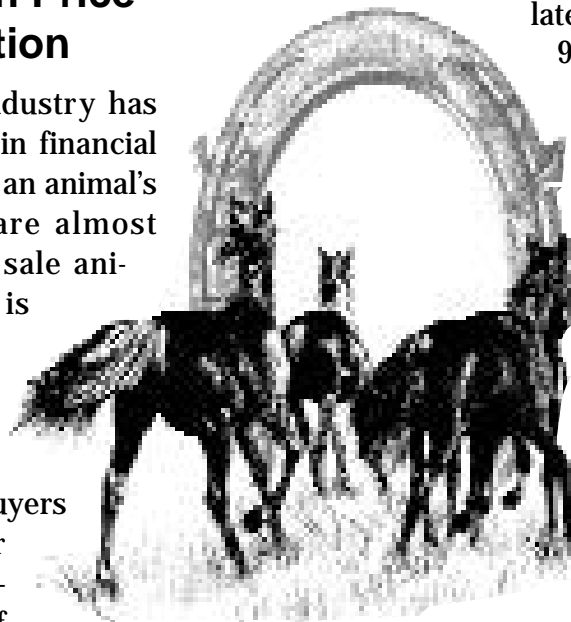
The Thoroughbred industry has been extremely diligent in financial documentation related to an animal's ancestry, and buyers are almost inundated with data on sale animals. Given this fact, it is somewhat amazing that until recently only minimal research has been done regarding the characteristics or variables buyers will pay a premium for and those that will be discounted. Knowledge of

these buyer patterns is important to all segments of the industry because it is the buyers who regulate demand through their bidding practices in the marketplace.

A recent University of Maryland–Agricultural Marketing Center study addressed the issue of price determination factors in Thoroughbreds. Data were initially evaluated on 812 yearlings sold at public auction by Fasig-Tipton, Inc., in the mid-Atlantic region from 1987 through 1989, and comparative data from 1990 through 1992 were

later evaluated. Approximately 96 percent of the yearlings were consigned by sellers from Maryland, Virginia, Pennsylvania, New York, New Jersey, and Kentucky.

This fact sheet discusses the internal factors shown to be important in determining market value based on price premiums buyers have consistently paid in the mid-Atlantic market at public auctions. Data were collected and studied



over a 6-year period, and the patterns and trends this data revealed are discussed here. Buyers, producers, and others associated with the Thoroughbred industry should be able to use this information to improve their marketing, production, and selection practices.

Price Factors

Because no quantitative system for measuring phenotypic (physical) variables is generally accepted, analysis was confined to catalog data. It was assumed that prospective buyers independently evaluated sale animals with regard to composition and perceived athletic ability.

Twenty-seven variables were analyzed, and several factors were found to be both monetarily and statistically significant. These factors include the following: the number of black-type-1¹ progeny by a sire; the number of black-type progeny out of the dam and out of the second dam; the sex of the yearling; the foaling date of the yearling; whether or not the yearling was nominated to the Breeders' Cup, the Maryland Million, or both; whether or not the yearling was a registered Maryland-bred; and whether the yearling was sold in an open or selected sale.

Black-Type Ancestry

The first variables mentioned all deal with black-type ancestry of the sale animal, and it probably comes as a surprise to few readers who follow the sales that black type is a market factor. The analysis revealed that, on average, buyers will pay \$170 per black-type progeny by the sire, plus \$3,015 per black-type progeny out of the dam, plus \$610 per black-type progeny out of the second dam.

Sometimes in academic analysis the factors not found to be significant are as impor-

tant as the "positive results." Such factors are called "negative findings." In this study, for example, it was revealed that buyers are not willing to pay a consistent premium for yearlings whose dams are black type themselves. Additionally, black-type or even classic-winner status of the sire was not deemed to be a consistent purchase criteria. These facts are supported by the finding that buyers do consider the earnings from racing by the dam of the yearling, but they are only willing to pay two cents times each dollar earned. That is, if a yearling is out of a dam who earned \$50,000 during her race career, then buyers are willing to pay only \$1,000 more for the yearling than a "theoretically identical" yearling whose dam was unraced or unplaced.

Another negative finding was that buyers don't consistently consider the number of winners by a sire or out of a dam to be a price determination factor in the yearling market. Thus, the hypothesis that buyers are selecting yearlings on their perceived ability to win black-type races—with bigger purses—is reinforced.

Sex of Yearling and Month of Foaling

To strengthen the ancestral analysis just discussed, several variables that are not directly pedigree related were investigated. The first two of these variables related to sex of yearling and month of foaling.

The results of the analysis implied that fillies are expected to sell for \$1,055 less than colts. This finding seems logical given that fewer races are written for fillies or mares, and the purses for such restricted races are generally smaller.

The sale price for yearlings that were foaled in January or February was found to be \$1,970 more than yearlings that were foaled in May or June. There was no consistent price pattern related to yearlings that were foaled in March or April. Given that a number of races are written exclusively for

¹The term "black type" is a Thoroughbred industry designation for animals that excel in higher quality races, such as stakes and handicaps.

2-year-olds, it seems logical that there would be a price premium for a more mature 2-year-old. The data also revealed a gradual increase in the number of early foals over the time period studied.

Nomination for Restricted Races and State-Bred Programs

Three sets of variables relating to nomination or registration for restricted races were analyzed. In all three instances, whether the yearling was nominated to the Breeders' Cup, the Maryland Million, or registered in the Maryland-bred Program, the variable was significant with coefficient values of \$2,605, \$1,510, and \$1,475, respectively. That's a substantial return on nomination or registration fees

of \$500, \$250,
and \$50,

respectively. An economist might look at these statistics and conclude that this represents an investment return of 521 percent for the Breeders' cup, 590 percent for the Maryland Million, and a whopping 2,950 percent for a Maryland-bred registration, but it is not that simple. Structural correctness and the pedigree of the individual animal must be considered by the breeder in an assessment of expected returns. That is, one can't expect a yearling with crooked legs to bring a premium simply by nominating it to the Breeders' Cup or other restricted races. However, if you have a correct yearling and its pedigree is at least decent, then the breeder or seller can expect a price increase as a result of such nominations or registrations.

Buyers consider these nomination and registration factors primarily for two reasons. First and foremost, buyers want a shot at some of the millions of dollars in the various funds. They realize that nominated and State-bred animals

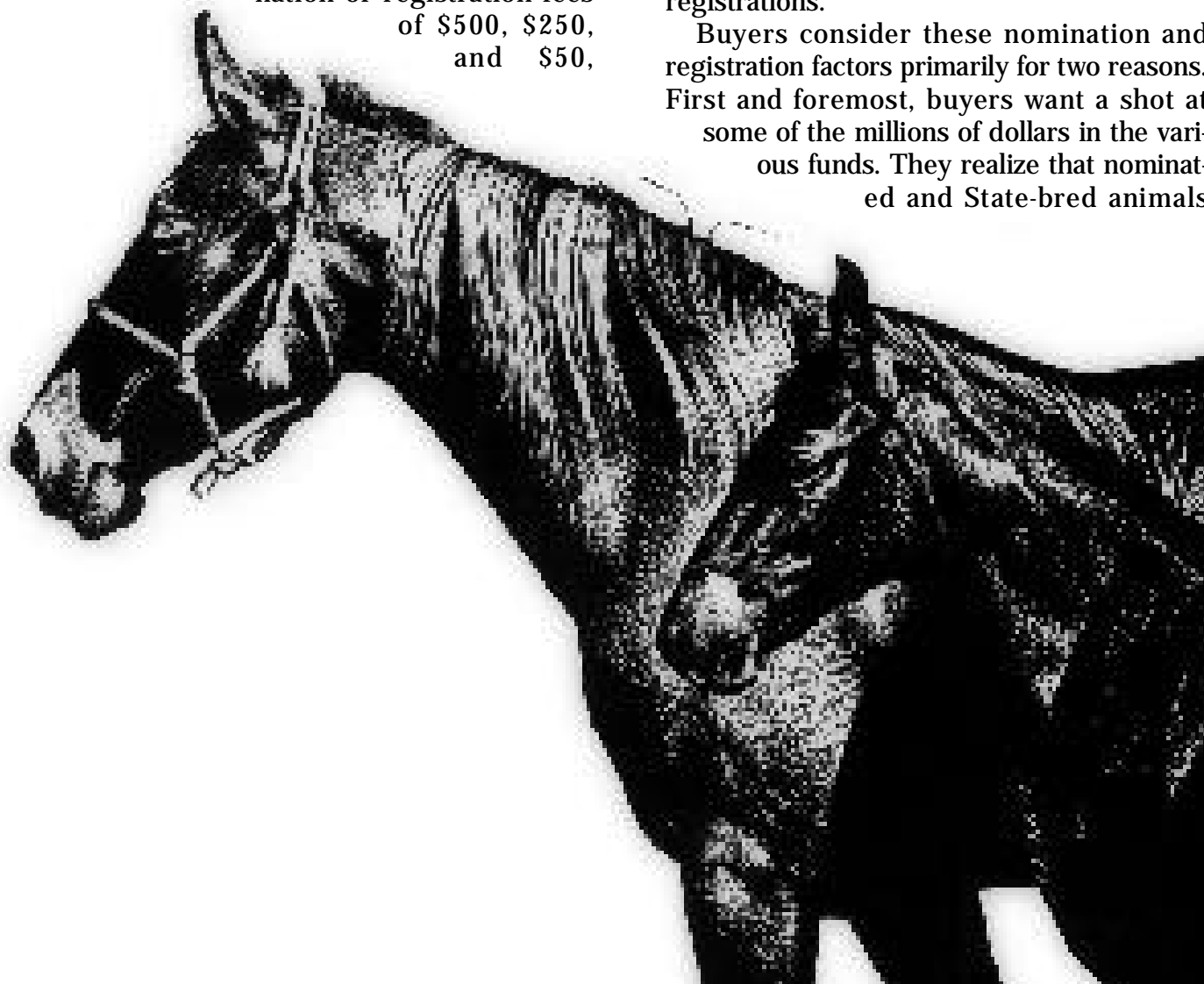


Table 1. An Expected Sale-Price Comparison of Yearlings A and B

Variable	Coefficient value ^a	Variable value to Yearling A	Variable value to Yearling B
SNB	\$170	0	\$3,400
DNB	\$3,015	0	\$3,015
GNB	\$610	\$610	0
Sex	\$1,055	\$1,055	\$1,055
Foaled early	\$1,970	0	\$1,970
NBC	\$2,605	0	\$2,605
NMM	\$1,510	\$1,510	\$1,510
RMB	\$1,475	\$1,475	\$1,475
Selected sale	\$5,645	0	\$5,645
Expected sale price		\$4,650	\$20,675

Note. SNB = Number of black-type progeny by sire; DNB = number of black-type progeny from the dam; GNB = number of black-type progeny from the maternal grandam; NBC = nominated to the Breeders' Cup; NMM = nominated to the Maryland Million; RMB = registered Maryland-bred.

^aEstimates are expressed in dollars per unit of measure, and all coefficients are rounded to the nearest \$5 increment.

have expanded earning potential, and buyers have consistently demonstrated their willingness to pay for this economic opportunity. Second, sellers who nominate or register their animals (as Maryland-bred) are sending an indirect signal to buyers that reveals the seller's judgment about the quality of the specific animal. This signal is particularly clear for animals nominated to the Breeders' Cup because the \$500 financial commitment usually requires that the seller evaluate the animal in question several times.

The expected increase in yearling price for animals selling in selected, versus open, sales was \$5,645. Because selection criteria related to sale type are heavily influenced by the yearling's pedigree and ancestral performance, as well as the yearling's conformation, a direct cause-and-result scenario is difficult to establish for this variable. However,

it is obvious that there is at least a perceived difference (if not a real difference) in the overall quality of yearlings in the selected sales; therefore, buyers expect to pay a higher price.

A Sample Comparison

Yearling A versus Yearling B. To apply the results of this study to a hypothetical example, consider two yearlings and the comparison presented in Table 1. Suppose Yearling A has the following characteristics: (1) it is a colt, (2) he was sired by a freshman sire who has sired no black-type progeny, (3) he is the first foal of a young mare who was unraced, (4) the second dam has produced one black-type offspring, (5) he was foaled in May, (6) he is not nominated to the Breeders' Cup, (7) he is nominated to the Maryland Million, (8) he is a registered Maryland-bred, and (9) he is sold in an open sale.

Further suppose Yearling B has the following characteristics: (1) it is a colt, (2) he is by a sire of 20 black-type progeny, (3) he is a foal of an unraced mare who has produced one black-type offspring, (4) the second dam has produced no black-type offspring, (5) he was foaled in February, (6) he is nominated to the Breeders' Cup, (7) he is nominated to the Maryland Million, (8) he is a registered Maryland-bred, and (9) he is sold in a selected sale.

Numerous yearlings fitting the general characteristics of Yearling A and Yearling B can be found in the mid-Atlantic region. They may look very similar in the pasture and both cost about the same amount of money to raise.

Who is the profitmaker? Considering the fact that most industry experts estimate

the minimum cost of producing and marketing a yearling at public auction is approximately \$15,000, Yearling B is a potential profitmaker and Yearling A is a guaranteed economic loss. The example is hypothetical, but the financial rewards associated with being aware of and adhering to buyer preferences are real.

Sales Trends

After evaluating price factors in the initial study based on data from 1987 through 1989 inclusive, follow-up studies were done. When the time-frame of the study was doubled to include data through 1992, patterns and trends were revealed. Statistics and changes related to the price-factor variables are presented in Tables 2 and 3.

Table 2. Means for Yearlings Sold in Fasig-Tipton, Inc., Midlantic Sales

Type of sale and date	Continuous variables				
	Horse price (\$)	SNB (#)	SPE (\$)	DER (\$)	DNB (#)
Selected					
1987	12,160	6.44	2,859,560	17,350	.51
1988	9,998	9.38	3,923,100	18,900	.38
1989	12,465	10.37	4,901,380	20,680	.59
1990	11,697	10.33	4,800,590	21,740	.59
1991	13,630	11.96	5,455,540	32,250	.59
1992	12,078	9.79	4,706,490	33,820	.66
Open					
1987	2,979	3.98	1,920,820	13,200	.16
1988	3,091	4.53	2,507,310	12,330	.23
1989	3,288	5.23	2,939,690	23,460	.26
1990	2,686	4.14	2,563,100	22,590	.21
1991	3,927	5.21	2,921,380	21,530	.28
1992	3,641	5.84	3,206,790	20,490	.23
Percentage of change 1987-1988 averages versus 1991-1992 averages					
Selected	+16	+37	+50	+82	+40
Open	+25	+30	+38	+65	+31

Note. SNB = number of black-type horses by the sire; SPE = earnings by the progeny of the sire; DER = Earnings from racing by the dam; DNB = number of black-type horses out of the dam.

Table 3. Means for Yearlings Sold in Fasig-Tipton, Inc., Midlantic Sales

Type of sale and date	Discontinuous variables (percentage of population)							
	SCW	SBW	SW	SNW	DBH	NBC	NMM	RMB
Selected								
1987	8	80	3	9	14	26	24	59
1988	8	78	8	5	21	38	22	58
1989	8	81	9	2	17	44	38	86
1990	8	82	9	1	21	51	49	98
1991	8	81	10	1	28	48	42	94
1992	11	73	12	2	22	40	38	90
Open								
1987	2	71	12	15	9	16	21	77
1988	4	72	16	8	8	25	15	69
1989	5	75	9	11	19	25	7	58
1990	4	67	24	6	13	25	24	86
1991	4	72	19	6	22	38	36	91
1992	5	60	23	11	13	24	32	93
Percentage of change 1987–1988 averages versus 1991–1992 averages								
Selected	+19	-3	+100	-79	+43	+38	+74	+57
Open	+50	-8	+50	-26	+106	+51	+89	+26

Note. SCW = Sire is a classic winner; DBH = dam is a black-type horse herself; SBW = sire is a black-type winner; NBC = nominated to the Breeders' Cup; SW = sire is a winner; NMM = nominated to the Maryland Million; SNW = sire is a nonwinner; RMB = registered Maryland-bred.

Value is a subjective term, particularly in the horse industry. In other words, the question is always "value compared to what"? In this case, the answer is found at the bottom of Table 2. By comparing 1987 and 1988 average yearling prices with 1991 and 1992 averages, horse prices increased 16 percent at selected sales and 25 percent at open sales. However, yearling quality measures, such as the number of black-type progeny by the sire, the sire's progeny earnings, the earnings from racing by the dam, and the number of black-type progeny foaled by the dam, all increased. Had the base year of comparison been established in the "glory

days" of 1983 or 1984, the increase in value for buyer dollars would have been even greater.

As discussed in Price Factors, other discontinuous factors are important to price. Given that nomination or registration to the Breeders' Cup, Maryland Million, or Maryland-bred programs increased value by over \$2,600, \$1,500, and \$1,475, respectively, it is not surprising to see a notable increase in the percentage-of-change figures for these variables (Table 3). The resulting 6-year average increases, again tipping the value-added scale to the benefit of buyers.

The statistics in Table 3 also reveal a notable shift in breeding patterns on both the paternal and maternal sides of the yearling's pedigree. Analysis of the sire factors (e.g., the sire was a classic winner, black-type winner, winner, or nonwinner) highlights the fact that there has been a drastic shift away from the use of sires who were nonwinners. This fact is particularly true for yearlings for sale in the selected sales. Sellers of yearlings by a winning sire (but not black-type or classic winners) have benefited the most from this trend. The incidence of yearlings having dams that were black type has increased by 43 percent in the selected-sale category and an amazing 106 percent in the open-sale category. The combination of these paternal and maternal factors denotes a clear and major improvement in quality of pedigree.

Yearling value, as measured by all factors discussed here, has increased more than price. In most cases the increase has been dramatic.

Conclusion

The information presented in this fact sheet summarizes the results of the ongoing University of Maryland Agricultural Marketing Center study of price factors and sales trends in the mid-Atlantic Thoroughbred market. Individuals associated with this market should be able to incorporate this information into their management practices in a manner that will be financially rewarding to the sellers and their agents, while providing the buyers with a more desirable product.

The results of this study are based on a mathematical system of averages, and as mentioned previously, no direct measure of phenotypic data were included. However, the fact that buyers found these factors to be important at least 95 out of 100 times should send a clear signal on demand influences in the marketplace.