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Examining the Economic Basis of Ethical Vegetarianism

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» First Prize «

Examining the Economic Basis of Ethical Vegetarianism

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Examining the Economic Basis of Ethical Vegetarianism

ABSTRACT

People who choose to be vegetarian for ethical reasons often believe that their choice has a small but positive impact on the welfare of animals. This paper examines the main economic arguments that are widely used in support of this belief as well as competing theories that claim that ethical vegetarianism in fact leads to *more* animal suffering. Using national chicken and pork production data from the United States Department of Agriculture and household-level expenditure data, I provide some estimates of the elasticity of quantity of each meat type produced to changes in consumer expenditure on it. The data suggest that elasticity of supply is positive and smaller than unity, and that values are larger when the changes in expenditure are negative. On the other hand, there is little evidence to support the rival hypothesis that ethical vegetarianism results in greater animal suffering.

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1. INTRODUCTION

1.1 The Protest Against Intensive Meat Production

The steady climb in Americans' consumption of meat, which reached a height of 200 pounds per capita in 2005 alone (United States Department of Agriculture Economic Research Service), has long been observed with interest by many researchers. Most studies agree that the rise in meat consumption is caused not only by greater consumer demand partly due to higher incomes, more consistent meat quality assured by product grading, persistent meat advertising coupled with increasing dietary preferences for a balanced meat diet, but also influenced by cost-reducing changes in meat production methods that lead to higher output.

Although supply growth typically represents lower prices and hence greater consumer surplus, intensive meat production methods have increasingly come under fire for externalizing some of its costs onto the environment, facilitating the spread of animal diseases as well as sacrificing safe working conditions of laborers and the well-being of animals. These undesirable features of factory farming have become characteristic of many price competitive producers, which have turned to rearing animals in high densities, offering unattractive wages and working conditions to farm and slaughterhouse workers, as well as seeking cheap methods of pollution control and disease prevention in order to minimize costs. For non-intensive meat producers, the price elastic nature of demand for meat from individual producers is a tempting signal from the market that they should follow the same path to stay in the game.

Ethical vegetarianism as a holistic movement argues that these negative externalities have moral costs that are too high to justify current production methods, and hence advocates the boycotting of meat and similarly intensively produced animal foods, including eggs, dairy products and cow leather. Other animal products such as honey and alcoholic drinks are, however, typically kept off this list. It is also worth noting that ethical vegetarians may not necessarily oppose exploitation of animals, as long as it does not involve what may be perceived as excessive cruelty to animals or workers, environmental irresponsibility or other moral concerns of the movement.

Although part of the appeal of ethical vegetarianism may be dissociating oneself as much as possible from a system that one finds odious, the movement seeks most of its justification from economic arguments, one of which is that a fall in demand for products would influence supply, either by reducing quantity supplied or by convincing producers to switch away from intensive to more ethical methods of production. However, if these arguments turn out to be weak, one may contend that an ethical vegetarian has no strong justification to persuade others to join the movement, at least from a consequentialist point of view, even if he or she may derive personal satisfaction from not consuming intensively produced animal products.

1.2 The Economic Basis of Ethical Vegetarianism

In this paper, I examine some of the core economic arguments articulated in the writings of the philosopher Peter Singer, who is considered a central spokesperson for ethical vegetarianism and author of several highly influential books and articles, including *Animal Liberation* (1977), first published in 1975, and, more recently, *The Way We Eat* (2006), the latter of which was coauthored with Jim Mason.

1. *Ethical vegetarians reduce the quantity of animals produced in factory farms and hence reduce animal suffering.*

Using the example of the playwright George Bernard Shaw, a vegetarian who was convinced that his lifestyle saved many “grateful” animals, Singer (1977) argued that one person’s decision to not buy meat leads to a fall in the price of meat and in the profitability of meat production, which causes a fall in supply. In 1980, he abandoned this claim in favor of a more subdued version, which is that one person’s decision to not buy meat can *contribute* to a fall in the price of meat and in the profitability of meat production, which leads to a fall in supply, *if* there are enough other people who also choose to change their eating habits (Singer 1980).

2. *Ethical vegetarians reduce the amount of grains consumed overall, reducing world food prices and hence human suffering due to hunger.*

Singer observed in *Animal Liberation* that since we could derive more nutrition from one pound of corn if we consumed it directly than if we fed the corn to a steer or chicken and then consumed the meat, modern methods of meat production actually reduce the amount of food available in the world. Moreover, according to his argument, the demand for inputs by the meat industry raises the price of grain and hence lowers the quantity that people in third world countries are able to buy (Singer 1977). If there were more vegetarians in America, then the world prices of grain would be more affordable, thereby decreasing the level of global malnutrition. This argument was echoed in another popular book, C. David Coats’ *Old MacDonald’s Factory Farm* (1989).

The above is not meant to be by any means a comprehensive list, but if the arguments are in fact incorrect, then depriving oneself of animal products or urging other consumers to embrace ethical vegetarianism, which Singer (1977) calls “the most urgent task of the animal liberation movement”, may not be justified from a consequentialist view of morality.

Both arguments are empirical claims that can be empirically verified or refuted. Since the problem of malnutrition in the third world is attended by a host of factors strongly influenced by political choices and other non-economic issues, I will confine the paper’s discussion to the more plausible first claim dealing with animal welfare, which is also the central claim of the movement.

1.3 Qualifying the Idea of Reducing Suffering

In the first economic argument, Singer implies that a lower level of production would result in a fall in total animal suffering. Since decreasing the quantity of meat produced necessarily means that fewer animals would be brought into being and reared, one may anticipate the objection that it is difficult to say whether the animals themselves would rather have never been born than to be subjected to the kind of conditions found in most factory farms.

Singer defended this assumption by arguing that there could be no moral obligations to beings that are nonexistent and which we do not know will definitely exist in the future; on the other hand, to the animals that do already exist, we are morally obliged to give equal consideration to their interests (Singer 1977), which would require us to produce meat and animal products using morally stringent but costly methods, limiting the quantity produced.

The philosophical point remains contentious and out of the scope of this paper. Nevertheless, one would intuitively imagine that the total happiness of six chickens squeezed by any means into a cage meant for only one chicken would be less than the total happiness of three chickens which are only uncomfortably crowded in the same cage. Therefore, I have adopted Singer's assumption that decreasing the quantity of meat produced by intensive farming methods is equivalent to reducing animal suffering, although readers may certainly choose to take a different view, resulting in a different understanding of the results in this paper.

2. LITERATURE REVIEW

2.1 The Philosophical Basis of Ethical Vegetarianism

Animal Liberation provided ethical vegetarianism with its intellectual footing and vision for altering mainstream behavior, differentiating it from other deviant groups with less coherent ideas. There are two important distinct arguments in the book: the first, which Singer considers “irrefutable”, is that it is not *necessary* for humans in developed countries to cause suffering to other animals in order to feed and clothe ourselves; the second is that it is not morally *justified* for humans in developed countries to do so (Singer 1977). If both premises are accepted, then it seems that all moral human agents should choose to become vegetarian.

The first argument is clearly supported by empirical evidence, since there are indeed many people who consume only plant products and lead exceptionally healthy lives even by first world standards. As for using animal skins for clothing or their feathers for bedding, there are certainly enough synthetic materials that would serve as alternatives, and which may very well be cheaper (Singer 1977). Although being compelled to wear plastic shoes instead of leather shoes may represent a huge loss to some people, the point that the choice to use animal materials in this day and age is strictly optional remains correct. However, Singer did not address the environmental costs involved in the manufacture of many synthetic materials that may, in the eyes of environmental vegetarians, outweigh the costs of animal suffering.

The second argument is philosophical in nature and hence considered far more debatable. Singer consistently asserted that he was not claiming that animal lives were as equally valuable as human lives, but rather that their interests, which results from their ability to feel pain and pleasure, deserves “equal *consideration*”, if not “equal or identical *treatment*” (Singer 1977, emphasis in text). Therefore, he claims that it is not justified for humans to consume animal flesh and skins since the pleasure that we derive from doing so is far outweighed by the suffering endured by the animals.

While the intention of this paper is not to challenge the philosophical tenets that underlie ethical vegetarianism, which may very well remain intact even if its economic arguments become discredited, it is worth noting that consequentialist arguments using economic evidence have particular force given the nature of these philosophical ideas. Singer himself remarked that “[t]he point of altering one’s buying habits is not to keep oneself untouched by evil, but to reduce the economic support for the exploitation of animals, and to persuade others to do the same”, and, even more importantly, that “[moral] consistency demands only that we do not contribute *significantly* to the demand for animal products” (Singer 1977, emphasis in text). It is therefore clear that the consequentialist view of morality is critically relevant to Singer’s version of ethical vegetarianism.

2.2 An Alternative Theory

In 1978, Philip Devine pointed out that Peter Singer may not be right to assume that lower profits in the meat industry would automatically imply lower levels of production. Instead, he argued that if a small but substantial group of consumers were to withdraw from the market,

causing prices to slip, the majority of consumers which are not vegetarian may respond to the change of price by demanding higher quantities and thus make up the fall in quantity demanded (Devine 1978), depending on the elasticity of demand for meat. This economic argument, while plausible enough in the short run if the fall in demand were considerable and unexpected, should not deter consumers who are determined to stick to a vegetarian diet for a long period of time, since presumably suppliers would be able to respond to the new lower price in the long run by cutting back production. It is possible and even probable that consumers would be unwilling to completely scale down consumption to former levels after the price increases, which would dilute the impact of the original fall in demand, but it is quite unlikely that a sizable proportion of the population would unexpectedly turn vegetarian in the same period, and at any rate production levels would still have declined.

Devine's second argument, which hypothesizes that instead of cutting back production, producers might react to falling profits from sales by "turning to yet more intensive (and thus more painful) forms of meat production" (Devine 1978), or begin producing meat of lower quality in terms of sanitation to recover profits, is more plausible and troubling. Indeed, expected rises in grain prices in 1983, which threatened to lower the profitability of beef production, did lead to predictions that "beef production will become more intensive", and that producers would further attend to "marginal costs and returns to the product" (Bartlett & Cook 1983). The implications are serious not only for animal welfare, but also from the perspective of meatpacking workers, who are estimated by the Bureau of Labor Statistics to be four times as likely as workers in other private industries to become injured or sick due to their jobs (Smil 2002), and whose jobs would likely become more dangerous with increased cost cutting.

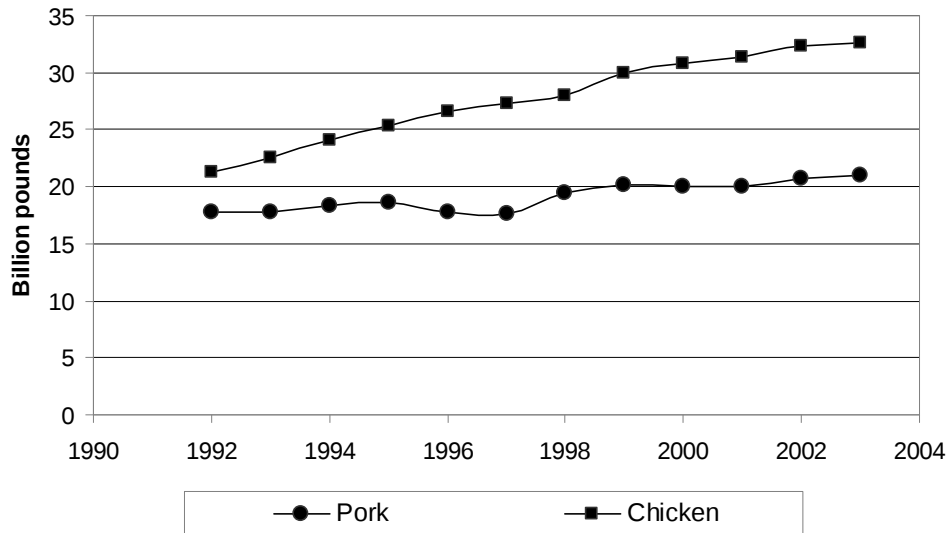
Based on similar lines, David Fraser developed an alternative theory for the historical intensification of meat production, noting that many producers do have "strong animal care values" but find it difficult to act on them because of financial constraints (Fraser 2005). The constraints tighten when profitability falls, and producers react by trying to lower average costs of production by expanding production and spending less on each animal, which necessarily deprives the animals of room and health care, resulting in greater suffering.

Following this reasoning, Fraser predicted that falling profits would *decrease* animal welfare, contrary to the theories of ethical vegetarianism. Therefore, if Fraser's arguments are accepted, becoming vegetarian for the sake of animal welfare achieves the opposite of its goal. The advantage of this alternative interpretation is that it does not require using the controversial assumption that falling production results in less suffering, and instead measures welfare more concretely by the amount of resources devoted to each animal.

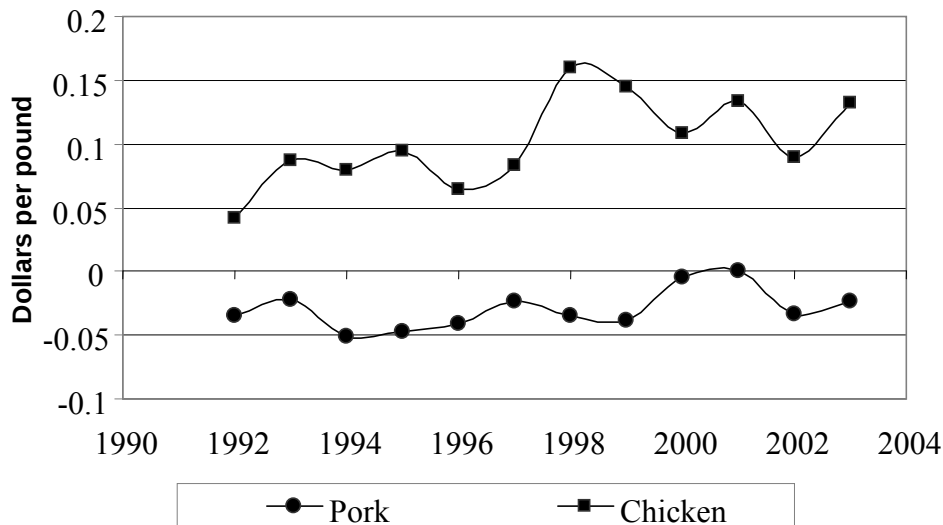
Table 1: Comparing the two theories of intensive animal production

Ethical vegetarianism	Fraser (2005)
Falling profits lead to falling production.	Falling profits lead to increasing production as producers seek to increase profit margins by expanding
Falling profits lead to fewer animals being subjected to mutilation and stress, and hence to less animal suffering.	Falling profits lead to fewer resources to spend on each animal, leading to more animal suffering.

Graph 1: Pork and chicken supply 1992-2003



Graph 2: Net return of pork and chicken production 1992-2003



Graphs 1 and 2 seem to offer some support this alternative hypothesis. Although profits for pork production fell in 2001, production continued to rise in 2002 and 2003. While production seemed to have responded to falling profits from 1993-1997 with lower production from 1996 to 1997, it is likely that industrial adjustments at this time were responsible for the declines due to important technological advances in retailing and meat processing. These tended to favor larger retailers and slaughter plants, creating a more consolidated and exclusive supply chain structure (Barkema et al 2001). Therefore, it is possible that many producers responded to the incentive of lower costs by enlarging operations even as other producers left the industry, stabilizing the level of pork production. A similar strategy may also have been adopted by the chicken industry, with producers responding to erratic profits by pushing down costs through higher production.

3. THE MODEL

3.1 A Model to Test the Economic Arguments of Ethical Vegetarianism

Singer's revised claim that not buying meat can *contribute* to a fall in the price of meat and lower the supply, *if* there are enough other people who are doing the same, is motivated by the fact that each consumer has a negligible impact on the industry. In response, I will seek to estimate proportional rather level effects for chicken and pork.

The responsiveness of the quantity of each type of meat supplied to a change in expenditure on meat and animal products is estimated using the constant elasticity model below:

$$\ln(Q)_t = \beta_0 + \beta_1 \ln(X_1)_{t-1} + \beta_2 \ln(X_2)_{t-1} + \beta_3 \ln(X_3)_t + \beta_4 \ln(X_4)_t + \varepsilon,$$

where

Q_t = quantity of meat produced domestically and imported

X_1 = real domestic expenditure on meat

X_2 = real retail price per 10 lbs

X_3 = real cost of production per 10 lbs

X_4 = quantity of meat in inventory at beginning of t ,

Q is measured in pounds and includes imported meat, since presumably ethical vegetarians care about the well-being of pigs raised in Denmark as much as they care about U.S. pigs. Two meats, chicken, which includes meat of layers and other chickens, and pork, have been chosen for comparison, firstly because both groups of animals are typically raised in confinement systems and arguably face the worst abuses of factory farms, and secondly because they have relatively short production cycles compared to beef, which allow for a larger sample size.

X_3 includes all overhead and operating costs as reported by the United States Department of Agriculture Economic Research Service. Both X_2 and X_3 are measured per 10 pounds instead of per pound in order to derive positive values of $\ln(X_2)$ and $\ln(X_3)$ for Box-Cox regressions.

Since rearing animals takes time, producers can only react to expenditure and price changes in t by either adding or taking stocks from the inventory, or by importing live animals. To measure the impact on actual new production, a one-period lag is introduced for X_1 and X_2 . It is currently unclear how many lags would be optimal to include, which should be determined using either the Bayes or the Akaike information criterion tests. The lags also eliminate the problem of simultaneous causality between the level of expenditure and level of production, as well as for prices and level and production.

The length of each lag, beginning on the 1st of December and the 1st of June of every year, is six months for pigs which are typically slaughtered at 24 weeks of age, and two months for chickens, which are slaughtered at an increasingly young age, from around 72 down to 48 days by 1995 (Smil 2002). A length of two months, beginning from the December of the previous year, therefore seems fairly suitable.

3.2 A Model to Test the Alternative Theory

Here, a second model is used for a different measure of animal suffering.

The responsiveness of the cost of production per 10 lb to a change in expenditure on meat and animal products is estimated using the model below:

$$\ln(C)_t = \beta_0 + \beta_1 \ln(X_1)_{t-1} + \beta_2 \ln(X_2)_{t-1} + \beta_3 \ln(X_3)_t + \beta_4 \ln(X_4)_t + \varepsilon,$$

where

C_t = real cost of production per 10 lb

X_1 = real domestic expenditure on meat

X_2 = real retail price per 10 lbs

X_3 = number of animals in inventory

X_4 = quantity of meat in inventory at beginning of t ,

X_3 is included as a direct factor of production costs as well as an indicator of the scale of production, which would affect the cost-saving options available to the producer.

3.3 The Assumption of Constant Elasticity

Elasticities yielded by both models are reliable only if the assumption that they are constant over time. The Box-Cox model, shown below, uses a more general form that avoids this assumption, where the model is linear if $\lambda = 1$, log if $\lambda = 0$ and reciprocal if $\lambda = -1$. Chang (1977) found that the measure of fit was better than with either of the stricter forms, with smaller mean square errors and mean square percentage errors.

$$Q^* = \beta_0 + \beta_1 X_1^* + \beta_2 X_2^* + \beta_3 X_3^* + \beta_4 X_4^* + \varepsilon,$$

where

$$Q^* = (Q_t^\lambda - 1)/\lambda$$

$$X_1^* = (X_1^\lambda - 1)/\lambda$$

$$X_2^* = (X_2^\lambda - 1)/\lambda$$

$$X_3^* = (X_3^\lambda - 1)/\lambda$$

$$X_4^* = (X_4^\lambda - 1)/\lambda,$$

λ is a transformation parameter yet to be determined, and elasticity of Q w.r.t X_1 ,

$$E_{QX1} = \beta_2 X_1^\lambda Q_t^{-\lambda} \quad (\text{Chang 1977}).$$

Therefore, if the constant elasticity models yield significantly different λ from 0, it should be rejected in favor of the general Box-Cox model.

4. MAIN DATA SOURCES

4.1 United States Department of Agriculture

Most of the required data can be obtained from the Statistics Service or the Economic Research Service of the United States Department of Agriculture (USDA), which collects monthly information on the quantity of red meat, poultry and dairy products produced domestically, imported, exported and stored in inventory. Historical data were found in the Commodity Yearbooks and the Livestock, Dairy and Poultry Outlook tables from the Economic Research Service, while more recent data for 2005 were obtained from the National Agricultural Statistical Services. Only data for commercial production were available, which is not a serious issue since the focus is on intensive producers.

Data limitations stem largely from the fact that only annual data were available for costs of production, where bimonthly and biyearly averages for each t were used in place. Moreover, cost data for pigs were available only from 1992, and hence there is only 26 data points from the beginning of 1992 to the first half of 2005. On the other hand, cost data for chicken were available from 1985 but the series were discontinued in 2003, yielding 114 bimonthly points of data. Methods of cost accounting differ among commodities, which should be considered when making direct comparisons of results for costs of chicken and pork.

4.2 Consumer Expenditure Survey: Diary Survey

The Diary Survey is held nationwide with more than 10000 consumer units participating every year. Respondents are asked to record their purchases daily for a period of two weeks, and these data are collected by the Bureau of Labor Statistics along with other information such as income and family status. In addition, each unit is fitted with weights derived by the Bureau of Labor Statistics such that the weighted sample represents one third of the U.S. population. The data are available by quarter and can be separated into monthly data.

Only completed responses between 1985 and the first half of 2005 were used. Since weekly expenditures are recorded, where the first day could occur on any day of the month, responses that began within the last three days of each month were considered data for the next month.

Ideally, expenditure data for chicken and pork from the Consumer Expenditure Survey should include money spent on each meat at home as well as food in restaurants and elsewhere. Unfortunately, this is impractical, because it is very difficult to assess how much of the expenditure on a chicken sandwich is for chicken only. Therefore, I made the assumption that people consume similar proportions of meat when they dine outdoors as they do at home. Consumers with a preference for lamb should theoretically exhibit the same behavior in grocery stores and restaurants, for example, although this may be violated in practice.

The study is used by the Bureau of Labor Statistics to compute the monthly and annual Consumer Price Index, and inflation data for U.S. urban averages were separately obtained to derive real levels of expenditure, costs and prices.

4.3 Some Summary Statistics

Table 2: Summary Statistics

Variables	No. of observations	Pork		No. of observations	Chicken	
		Mean	Standard deviation		Mean	Standard deviation
Domestic Production (million lb)	27	55600	3770	114	23700	6220
Imports (million lb)	27	2510	591	114	4.337	5.636
Expenditure on meat (million dollars)	27	43200	2580	114	12200	1620
Retail prices (\$/lb)	27	1.465	0.052	114	1.003	0.100
Cost of production (\$/lb)	27	0.613	0.026	114	0.490	0.111
Meat in inventory (million lb)	27	417	72.4	114	922	474

Table 3 is included to address the issue of multicollinearity between expenditure and retail prices that could lead to biased results. The correlation levels are not alarmingly high, and the reverse signs for each commodity suggest that demand is price inelastic for pork but price elastic for chicken, which, from the point of view of ethical vegetarianism, implies that chicken is a better target for lowering expenditure.

Table 3: Correlation between expenditure and retail price

Pork		Chicken	
No. of observations: 27		No. of observations: 114	
	Retail price		Retail price
Expenditure	0.3444	Expenditure	-0.5387

5. RESULTS AND DISCUSSION

5.1 Expected Results

Theoretically, it is possible to find results that support both theories, with suppliers cutting down both production levels *and* production costs in response to lower expenditures. In this situation, it would be difficult to say whether ethical vegetarianism has a positive impact on animal welfare, since fewer animals would suffer, but the average level of suffering for the remaining animals rise.

This dilemma is not expected to arise, however, because supply is already highly price competitive, and it would be difficult for producers to find ways to further cut costs without beginning to hurt profits, which higher animal death rates due to poorer conditions would cause. It is more likely that higher value per animal would lead to increased production and increased average costs of production, which leads to the opposite dilemma of having more suffering animals with a lower average level of suffering.

I therefore predict that costs of production would react only to *rising* expenditures, and that production levels would react to both increases and falls in expenditure, although they should be more elastic to falling expenditures, since lowering production is generally less costly and risky than expanding it.

5.2 Testing the Economic Arguments of Ethical Vegetarianism

Table 4 shows the outcome of the Akaike and Bayes information criteria tests for the first model, which seeks to find the fewest number of parameters that obtains a minimal level of residual sum of squares. Choosing the smallest values of AIC and BIC, I find that the results coincide for both pork and chicken, with one lag for the former and three for the latter. This is likely to be due to the short production cycle of chickens, allowing producers to take into account relatively recent consumption levels.

**Table 4: Choosing number of lags for expenditure
using Akaike and Bayes Information Criteria**

Lags	Pork			Chicken		
	No. of observations: 23			No. of observations: 110		
	degrees of freedom	AIC	BIC	degrees of freedom	AIC	BIC
1	1	-2.674*	-2.575*	1	-1.344	-1.295
2	1	-2.596	-2.448	1	-1.411	-1.338
3	1	-2.509	-2.312	1	-1.689*	-1.590*
4	1	-2.432	-2.185	1	-1.676	-1.553

**Table 5: Estimates of elasticities of chicken and pork production
w.r.t expenditures in previous t using robust regressions**

	ln(pork produced and imported) $_t$	ln(chicken produced and imported) $_t$
ln(expenditure) $_{t-1}$	0.174** (0.059)	0.130* (0.057)
ln(expenditure) $_{t-2}$		0.077 (0.064)
ln(expenditure) $_{t-3}$		0.110 (0.057)
ln(retail price) $_{t-1}$	-0.357* (0.159)	0.076 (0.193)
ln(cost of production) $_t$	-0.479** (0.031)	-0.461** (0.078)
ln(meat in inventory) $_t$	0.041 (0.028)	0.307** (0.037)
Constant	18.67	9.696
Adjusted R²	0.932	0.954
Root MSE	0.019	0.058
No. of observations	26	111

* significant at 5% level

** significant at 1% level

Table 5 shows the first estimates of the responsiveness of the quantity of meat supplied to a change in expenditure. Elasticities for both pork and chicken supply are positive and less than unity, with the supply of chicken being slightly less elastic. The variables seem to account for a large proportion of variation of production, suggesting that omitted variables bias is not a significant problem. The signs for costs of production are positive, as might be expected, while the reverse signs for the coefficients of retail prices affirm that producers respond to levels of actual expenditures rather than to prices, since demand is price elastic for chicken but inelastic for pork.

To make some brief and imprecise calculations relevant from the point of view of ethical vegetarians, a 1% fall in total expenditure, which involves converting roughly 3 million Americans who are not currently vegetarian to the cause, would result in a fall of 0.174% of pork production and 0.130% of chicken production, which, using production levels for 2003, translates to $0.00174 \times 5497980000 = 9566485.2$ pounds of pork and $0.0013 \times 10406627959 = 13528616.3$ pounds of chicken, or about 63777 150-pound pigs and 4.5 million 3-pound broilers. The average vegetarian therefore causes a difference to 0.02 pigs and 1.5 chickens every production cycle, or $0.02 \times 2 = 0.04$ pigs and $1.5 \times 6 = 9$ chickens every year, which is somewhat larger than Singer's noncommittal guess of about 20000 birds for every 10000 vegetarians (Singer 1980).

**Table 6: Box-Cox test for model transformation
and the assumption of constant elasticity**

	Pork			Chicken	
	Implied Model	Prob> χ^2	Decision	Prob> χ^2	Decision
$H_0: \lambda = -1$	Reciprocal	0.679	Cannot reject	0.000	Rejected at 5% significance
$H_0: \lambda = 0$	Logarithmic	0.075	Cannot reject	0.474	Cannot reject
$H_0: \lambda = 1$	Linear	0.003	Rejected at 5% significance	0.000	Rejected at 5% significance
No. of observations		26		111	
λ		-1.293 (0.706)		-0.203 (0.269)	
Log likelihood		-168.1		-2286.8	

Table 6 shows the results of the Box-Cox test, which returned a non-significant λ -value of -1.293 for pork and -0.203 for chicken, implying that the constant elasticity assumption for the particular model is not statistically problematic, even though the linear model was rejected for both commodities. On the cautious side, the Prob> χ^2 for pork is fairly small, and the estimates should not be taken as precise values.

Table 7 on the next page distinguishes elasticities of quantity supplied to positive and negative changes in expenditure, and as predicted, the supply of pork is more positive to falls than to increases in expenditure. The coefficient of 0.275 is larger than the previous estimate of 0.174 for pork and is the more useful statistic for ethical vegetarians. Using similar calculations from those performed on the previous page, the true marginal effect is closer to about 0.034 pigs per year per vegetarian, or 1 pig for every 30 vegetarians.

Estimates for either positive and negative changes in expenditure were not significant for chicken, although the t -value for $\ln(\text{expenditure})_{t-1}$ is substantially better at $t-1$ for negative changes in expenditure than for positive changes, and yields a p -value of 0.074, which can be construed as statistically significant.

**Table 7: Comparing elasticity estimates of chicken and pork production
w.r.t increased and decreased expenditures in previous t**

	ln(pork produced and imported) t		ln(chicken produced and imported) t	
	Expenditure in $t-1>$	Expenditure in $t-1<$	Expenditure in $t-1>$	Expenditure in $t-1<$
	Expenditure in $t-2$	Expenditure in $t-2$	Expenditure in $t-2$	Expenditure in $t-2$
ln(expenditure) $t-1$	0.136 (0.145)	0.275* (0.115)	0.099 (0.108)	0.284 (0.155)
ln(expenditure) $t-2$			0.097 (0.110)	-0.062 (0.115)
ln(expenditure) $t-3$			0.094 (0.068)	0.137 (0.087)
ln(retail price) $t-1$	-0.167 (0.188)	-0.533** (0.156)	0.067 (0.241)	0.129 (0.321)
ln(cost of production) t	-0.475** (0.059)	-0.442** (0.057)	-0.458** (0.097)	-0.521 (0.137)
ln(meat in inventory) t	0.137 (0.069)	0.036 (0.036)	0.311** (0.043)	0.291 (0.075)
Constant	17.54	16.54	10.18	9.126
Adjusted R²	0.955	0.931	0.958	0.945
Root MSE	0.017	0.018	0.056	0.062
No. of observations	13	13	65	46

* significant at 5% level

** significant at 1% level

On the next page, Tables 8 and 9 shows the impact of proportional changes in expenditure on the quantity of new animals brought into factory farms and on the quantity of animals slaughtered in domestic production. The negative sign for the elasticity of new pig crops to changes in expenditures is the most obvious surprise, given that total quantity of pork decreases to a fall in expenditure. There may be some omitted variable bias in this case, given that only 56.6% of variation is explained. Another possible explanation is that as the value of their meat falls, producers delay the slaughter of female pigs, which are turned over to producing piglets instead. This explanation however does not correspond to the non-significant impact on pigs slaughtered. The third reason, which I think is the most plausible, is that falling expenditures tend to affect mostly pork imports rather than domestic production.

The value of 0.192 for the responsiveness of new chicken crops supplied to a change in expenditure is larger than the value obtained from Table 5, and is probably the more significant value, since it includes the number of animals which were not slaughtered but were lost to disease, shock or other causes. In addition, the third lag is also significant. Using these values, the impact of the average vegetarian is closer to $(1.92+1.06)/0.130*9 = 18.5$ chickens per year.

**Table 8: Estimates of elasticities of new pig crop and new chicks hatched
w.r.t expenditures in previous t**

	ln(new pig crop) $_t$	ln(new chicks hatched) $_t$
ln(expenditure) $_{t-1}$	-0.148** (0.051)	0.192** (0.045)
ln(expenditure) $_{t-2}$		0.075 (0.043)
ln(expenditure) $_{t-3}$		0.106* (0.043)
ln(retail price) $_{t-1}$	0.217 (0.150)	0.028 (0.151)
ln(cost of production) $_t$	-0.159* (0.060)	-0.227** (0.059)
ln(meat in inventory) $_t$	-0.003 (0.035)	0.221** (0.027)
Constant	21.15	8.817
Adjusted R²	0.566	0.942
Root MSE	0.020	0.047
No. of observations	26	111

* significant at 5% level

** significant at 1% level

**Table 9: Estimates of elasticities of pigs and chickens slaughtered or
dead before slaughter w.r.t expenditures in previous t**

	ln(pigs killed) $_t$	ln(chickens killed) $_t$
ln(expenditure) $_{t-1}$	0.014 (0.042)	0.099* (0.044)
ln(expenditure) $_{t-2}$		0.080 (0.045)
ln(expenditure) $_{t-3}$		0.062 (0.040)
ln(retail price) $_{t-1}$	-0.279** (0.093)	0.033 (0.128)
ln(cost of production) $_t$	-0.325** (0.022)	-0.272** (0.055)
ln(meat in inventory) $_t$	0.039* (0.016)	0.222** (0.026)
Constant	16.98	11.59
Adjusted R²	0.931	0.944
Root MSE	0.013	0.044
No. of observations	26	111

* significant at 5% level

** significant at 1% level

Table 10: Comparing elasticity estimates of domestically produced and imported chicken and pork

	ln(pork) _t		ln(chicken) _t	
	Domestic production	Imports	Domestic production	Imports
ln(expenditure) _{t-1}	0.135* (0.051)	1.058* (0.491)	0.130* (0.057)	1.393* (0.674)
ln(expenditure) _{t-2}			0.077 (0.064)	1.029 (0.674)
ln(expenditure) _{t-3}			0.110 (0.057)	0.687 (0.737)
ln(retail price) _{t-1}	-0.323* (0.142)	-1.023 (0.871)	0.077 (0.193)	-8.380* (3.618)
ln(cost of production) _t	-0.448** (0.029)	-1.139** (0.254)	-0.460** (0.078)	-2.582** (0.972)
ln(meat in inventory) _t	0.035 (0.025)	0.187 (0.245)	0.307** (0.037)	0.695* (0.338)
Constant	19.61	-6.787	9.694	-44.36
Adjusted R²	0.930	0.643	0.954	0.692
Root MSE	0.018	0.137	0.058	0.641
No. of observations	26	26	111	75

* significant at 5% level

** significant at 1% level

Table 10 observes the difference on the impact on imported and domestically produced animals, which may be of concern to ethical vegetarians since protection of farm animal interests differ between countries, although factory farming is also employed in Canada, Australia and New Zealand, which are major sources of imports, especially Canada in the case of pork. The tables shows clearly that the signs are of the expected direction, and that the impact on imports is much larger than that on domestic production, which is plausible given that imports constitute a minor part of supply, and a given change would be represent a much bigger proportional difference to exporters.

5.2 Testing the Alternative Theory

Performing a similar test on the second model, I obtained similar results, with one lag recommended for pork and three lags for chicken, which is consistent with the hypothesis that the shorter production cycle of chickens allows producers to use more recent information when making production decisions.

Table 11: Choosing number of lags for expenditure using Akaike and Bayes Information Criteria

Lags	Pork No. of observations: 23			Chicken No. of observations: 110		
	degrees of freedom	AIC	BIC	degrees of freedom	AIC	BIC
1	1	-2.674*	-2.575*	1	-1.344	-1.295
2	1	-2.596	-2.448	1	-1.411	-1.338
3	1	-2.509	-2.312	1	-1.689*	-1.590*
4	1	-2.432	-2.185	1	-1.676	-1.553

Table 12: Estimates of elasticities of production costs w.r.t expenditures in previous t

	ln(pork production cost per 10 lb) t	ln(chicken production cost per 10 lb) t
ln(expenditure) $t-1$	-0.412 (0.215)	-0.090* (0.043)
ln(expenditure) $t-2$		-0.048 (0.040)
ln(expenditure) $t-3$		-0.031 (0.042)
ln(retail price) $t-1$	-0.897* (0.342)	0.239* (0.106)
ln(animals in inventory) t	-2.885** (0.666)	-0.054 (0.030)
ln(meat in inventory) t	-0.266** (0.090)	-1.179** (0.136)
Constant	67.22	29.90
Adjusted R^2	0.690	0.902
Root MSE	0.077	0.051
No. of observations	26	111

* significant at 5% level

** significant at 1% level

Table 12 shows the first results for responsiveness of the cost of production per 10 lb to a change in expenditure on meat. Firstly, the negative coefficients for $\ln(\text{animals in inventory})_t$ and $\ln(\text{meat in inventory})_t$ are consistent with findings that larger operations tend to have lower

production costs, which may attract producers to expand production. From the previous regressions (see Table 5), however, the actual production levels do fall rather than rise in response to falling profits, leaving a more consolidated but overall smaller industry.

However, it is the negative signs of the coefficients for $\ln(\text{expenditure})_{t-1}$ is the most interesting result, since it is the opposite of what was predicted by Fraser (2005). The coefficient for pork, -0.412, has a p-value of 0.060, which is fairly significant. These values do not offer any evidence that animal welfare is compromised by ethical vegetarianism, since it would not lead to lower average costs.

The coefficients for $\ln(\text{retail price})_{t-1}$ are equally puzzling. Assuming that demand for chicken is price elastic and for pork price inelastic (see Table 3 and the discussion on page 12), a rise in prices should lead to higher profitability for pork and lower profitability for chicken. Under Fraser, this should mean that the coefficient should be positive for pork and negative for chicken, since producers should increase expenditure on each pig and lower expenditure on each chicken. The results, on the other hand, show that the coefficient is negative for pork and positive for chicken.

To verify that the problem is not an issue of functional forms, a Box-Cox test was used. Table 13 shows that the logarithmic form is acceptable for the model and that $\text{Prob}>\chi^2$ are quite far from critical values.

Table 13: Box-Cox test for model transformation and the assumption of constant elasticity

	Implied Model	Pork		Chicken	
		$\text{Prob}>\chi^2$	Decision	$\text{Prob}>\chi^2$	Decision
$H_0: \lambda = -1$	Reciprocal	0.056	Cannot reject	0.463	Cannot reject
$H_0: \lambda = 0$	Logarithmic	0.378	Cannot reject	0.723	Cannot reject
$H_0: \lambda = 1$	Linear	0.867	Cannot reject	0.151	Cannot reject
No. of observations		26		111	
λ		-0.842 (0.946)		-0.326 (0.919)	
Log likelihood		32.71		177.9	

**Table 14: Comparing elasticity estimates of chicken and pork production
w.r.t increased and decreased expenditures in previous t**

	ln(pork production cost per 10 lb) t		ln(chicken production cost per 10 lb) t	
	Expenditure in $t-1>$	Expenditure in $t-1<$	Expenditure in $t-1>$	Expenditure in $t-1>$
	Expenditure in $t-2$	Expenditure in $t-2$	Expenditure in $t-2$	Expenditure in $t-2$
ln(expenditure) $t-1$	-1.232 (0.564)	-0.465 (0.477)	0.071 (0.109)	-0.132 (0.117)
ln(expenditure) $t-2$			-0.243 (0.123)	-0.011 (0.104)
ln(expenditure) $t-3$			-0.045 (0.062)	-0.021 (0.099)
ln(retail price) $t-1$	-0.053 (0.744)	-1.204** (0.383)	0.065 (0.157)	0.428 (0.214)
ln(animals in inventory) t	-2.876* (1.034)	-2.768** (0.661)	-0.055 (0.038)	-0.026 (0.053)
ln(animals in inventory) t	-0.581** (0.152)	-0.229* (0.083)	-1.320** (0.187)	-1.157** (0.226)
Constant	91.62	65.72	34.19	28.34
Adjusted R²	0.698	0.755	0.904	0.894
Root MSE	0.079	0.067	0.051	0.052
No. of observations	13	13	65	46

* significant at 5% level

** significant at 1% level

Table 14 distinguishes between effects of falling and rising expenditures on average costs of production. Again, coefficients for $\ln(\text{expenditure})_{t-2}$ are negative for both meats. The values are also insignificant at 5% level, although the coefficient for $\ln(\text{expenditure})_{t-2}$ on chicken when expenditure_t represents an increase in expenditure, -0.243, has a fairly small p-value of 0.053. The signs of the coefficients for $\ln(\text{retail price})_{t-1}$ continue to be incorrect.

The model therefore does not support Fraser's claims that "the problem has not been excessive profit-taking by large corporations, but low and unpredictable profits and the constraints these place on producers" (Fraser 2005).

6. CONCLUSION

The findings from this paper generally support the economic arguments for ethical vegetarianism in the case of chicken and pork, although results may differ for other meats and animal products. On the other hand, there is little evidence to show that ethical vegetarianism is actually counterproductive, unless further studies show that animal welfare is improved at the expense of farm and slaughterhouse workers or the environment. In addition, one may conclude that vegetarianism decreases animal suffering only if one also accepts that less animal suffering occurs when there are fewer animals being brought into being and reared on factory farms, returning the debate on the ethical vegetarianism to philosophical grounds.

In the economic realm, however, there is certainly avenue for further research. The current models suffer from relatively small sample sizes, and results may change with the inclusion of new theoretically relevant explanatory variables such as retail prices of other meats. It may also be appropriate to study the impact of changes in expenditures before and after the mid-1990s, which may display different behavior in production decision-making. Furthermore, instead of comparing the effect of increasing and decreasing expenditure on cost of production, the effect of increasing and decreasing profits or production levels could be used. In particular, a direct test of the theories in Table 1 would make the conclusion more convincing. On the microeconomic level, individual firm studies would provide a stronger insight into the choice of variables and length of lag, as well as the impact of average costs on animal welfare. For consumer studies, the assumption that people spend the same proportions of money on similar foods is important to the results, and would be in its own right an interesting question to answer.

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Intergenerational Class Mobility by Race: Can the Black Middle Class Reproduce Itself?

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Intergenerational Mobility By Race: Can the Black Middle Class Reproduce Itself?

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Intergenerational Mobility By Race: Can The Black Middle Class Reproduce Itself?

ABSTRACT

What is the fate of the black middle class? The rise of the black middle class is a relatively recent phenomenon, and as such, it remains to be seen whether it successfully passing its prosperity to the next generation. Building upon various models used by Featherman & Hauser (1978), Hout (1985), and Mazumder (2005), this paper uses intergenerational elasticities and mobility tables to examine the transmission of class status from one generation to the next. Data from the Panel Survey of Income Dynamics (PSID) is used to compare the differences in mobility between middle class blacks and whites over the period from 1968-2003. The results indicate that African-Americans in the middle class show higher levels of class persistence than middle class whites and that the black middle class is actually growing over time, while the number of whites in the middle class is shrinking.

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I. INTRODUCTION

Issues of poverty, crime, welfare dependency and segregation tend to dominate research on African-Americans. The large proportion of blacks in the bottom quintile has focused the majority of attention invariably on concentrated poverty and inner-city “ghettos.” These studies, however, are unrepresentative of the larger African-American population. Not all African-Americans are poor, high school dropouts, or live in the ghetto. More prosperous blacks have been eclipsed by the plight of the overwhelming number of those living at or below the poverty line. Research has too often taken race as a whole, without considering important within-race differences such as class. The black middle class, in particular, has passed largely unnoticed.

This paper focuses on the intergenerational mobility of the black middle class. Intergenerational mobility is a key indicator of wellbeing, as the transmission of success to the next generation is essential for a class to perpetuate itself. While a few authors have written about the state of the black middle class in general, there have been very few intergenerational studies since the 1970’s. Times have changed dramatically since then, particularly for African-Americans, and a study on this issue is long overdue.

Understanding racial differences in class intergenerational mobility is critical. It is only through upward intergenerational mobility and persistence in the middle class that African-Americans can achieve long-term parity with whites. This issue is especially relevant to the black middle class, which does not have the longevity or historical economic stability of the white middle class. The black middle class, as we know it today, arose out of the 1960’s Civil Rights Movement. Its very existence is argued to be fragile (Collins 1983, 1999; Patillio-McCoy 1999; Oliver & Shapiro 1995), and it remains to be seen whether the black middle class can sustain itself in the long-run without support – or if, without government intervention, it is doomed to disappear into the underclass.

In this paper, I examine the intergenerational elasticity of the black middle class, relative to the white middle class, to determine whether middle class African-Americans are passing their success on to their children. The paper takes the following format: Section II provides a literature review, focusing on the formation of the black middle class and studies of intergenerational income and occupational mobility. It describes the issues involved in intergenerational mobility and frames the debate over the future of the black middle class. In Section III, the conceptual framework is discussed, and the model used for analysis is described. Alternative approaches and possible criticisms are also examined in Section III. Section IV presents the data and methodology used in the study, including the construction of the matched dataset and a discussion of the data constraints. Section V presents an interpretation of the findings and Section VI concludes.

II. LITERATURE REVIEW

A Brief History of the Formation of the Black Middle Class

The black middle class did not arise naturally over the course of African-American economic development. Rather, it was the direct product of the anti-discrimination legislation of the 1960’s. As such, it is a relatively recent phenomenon, and the future of the black middle class is still far from certain. The rise of the black middle class was both dramatic and rapid. Before 1960, the majority of African-Americans lived in deep poverty in the rural South. Racial

discrimination, segregation, and lack of access to equal education were critical factors which limited the economic and social mobility of blacks in the United States.

Prior to 1960, few African-Americans could be counted in the middle class. Fewer than ten percent held middle class occupations, and black incomes were considerably lower than whites performing the same role. The opportunity structure was extremely narrow, and there was little to no chance for advancement for blacks. The white middle class, by contrast, has constituted more than twenty percent of the white population since as early as 1910 (Landry 1987). While the white middle class held a wide range of occupations, the black middle class pre-1960 was limited to a small number of professionals – primarily small businessmen, ministers, and teachers – who were largely confined to serving the black population. There were extremely limited white-collar opportunities for blacks in either the public or private sectors (Kusmer 1976). Outside the black community, African-Americans worked in unskilled industrial or service jobs, and black women worked virtually exclusively as maids (Landry 1987).

The situation of African-Americans improved dramatically in the 1960's. The effects of the anti-discrimination legislation from the Civil Rights movement and the War on Poverty combined to generate opportunity for African-Americans and created an astounding growth in the black middle class. The new civil rights laws desegregated the military, opened a wide new range of occupations to African-Americans, and effectively removed barriers to education. This rapid social change was swept along by a period of unprecedented economic growth and prosperity (Oliver & Shapiro 1995).

Racial discrimination, segregation, and lack of access to education – all of which were critical factors limiting the economic and social mobility of African Americans – were systematically targeted by the new legislation. The Civil Rights Act of 1964 barred discrimination in public accommodations, transportation, education, and employment, while the Voting Rights Act of 1965 made the ballot more accessible to blacks. As result, the number of blacks in colleges and universities almost doubled, and the number of blacks in technical, administrative, and managerial positions increased considerably (Harris 1999). Between 1960 and 1970, the black middle class grew at an astounding rate (Pattilo-McCoy 1999).

After such explosive growth in the 1960's, however, the black middle class was unable to sustain such rapid expansion. It was hit hard by the economic downturn of the 1970's, and saw many of its gains eroded. The rate of growth of the black middle class slowed in the 1970's and 1980's, and studies show that the black/white income gap showed no signs of narrowing. After reversing more than a century's worth of educational disadvantage and achieving college enrollment rates that were on a par with whites, African-Americans saw college enrollment and completion rates fall in the mid-1970's. These rates continued to decline every year since 1976 (Landry 1987; Oliver & Shapiro 1995).

Throughout the 1980's, African-Americans experienced stagnating or falling earnings and wages relative to whites (Cancio, Evans & Maume 1996). The situation was worsened by the withdrawal of federal supports by the Reagan administration, and the curtailing of affirmative action programs. Young African-Americans were hit particularly hard by the downturn and the loss of federal support (Blau & Beller 1992). The fate of young African-Americans is of particular importance to this study, as it is a key variable in the measure of intergenerational mobility, and its success is crucial if the black middle class is to reproduce itself. Without the necessary education and experience, the young generation will never gain the skill-set necessary to achieve middle class status.

Declining Significance of Race?

The initial rapid success of the black middle class prompted William Julius Wilson to claim that for African-Americans social class is now a more important determinant of economic opportunity than race. Wilson argues that racism and discrimination, while still factors, will have diminishing effects on black socio-economic attainment over time. Instead, he posits that differences in education, skills, and experience will play an increasingly larger role (Wilson 1978). Opponents of this class argument counter that race has persisted as an explanation of the differences between black and white attainment (Oliver 1980; Willie 1979), and even become more important for certain groups such as the black middle class (Feagin & Sikes 1994; Landry 1987; Collins 1983, 1999; Patillo-McCoy 1999).

Two Middle Classes

Opponents of Wilson's theory argue that there are, in fact, two different middle classes: a superior, white middle class and an inferior, black middle class. The consensus is that "being middle class does not necessarily overcome the particular disadvantages of being black" (Patillo-McCoy 1999). The inequalities between the two middle classes are apparent in almost all arenas. The black middle class lives in poorer neighborhoods, on average, than the white middle class (Massey, Condrant, Denton 1987), with higher crime rates and weaker schools (Gregory 1992).

The typical black middle class family also possesses far less wealth than the average white middle class family. The black/white wealth ratio is only 0.15 – which indicates that middle class blacks own only fifteen cents in wealth for every dollar that middle class whites own. Middle class blacks are also significantly less likely to invest in the stock market, or own high-risk/high-return assets. This means that they will not experience as much return on their investments as whites, and middle class black wealth will follow a lower, slower trajectory than whites (Oliver & Shapiro 1995).

Occupationally, the black middle class is still characterized by inequality. As Collins writes, "the black middle class's opportunity for income depends more heavily on political tides than economic trends" (Collins 1983). Historically, the black middle class has been over-represented in government positions such as public administration and protective services. Public sector jobs frequently pay less than the corresponding private sector jobs, which places African-Americans on a lower lifetime earnings track. Blacks do not necessarily trade higher income for increased job security, as very often these government jobs are in positions which are the first to be laid off during budget cuts (Collins 1983).

In the private sector, African-Americans are often marginalized into "dead-end jobs" which provide little room for advancement or the acquisition of new skills (Collins 1989, 1997; Toliver 1998):

Too often Black managers are channeled into The Relations as I call them-the community relations, the public relations, the personnel relations. These may be important functions, but they are not the gut functions that make the business grow or bring in revenues. And they are not the jobs that prepare an executive to be a CEO. (Jones 1986:89)

This suggests that the black white-collar workers, even if nominally earning the same wage as whites, are not given access to the same broad array of occupations. While annual earnings may be comparable, lifetime earnings will almost certainly be lower, as black workers are trapped in

jobs and denied upward mobility. Furthermore, such practices prevent African-Americans from gaining the same skill-set or contacts as whites, and are later unable to pass them down to their children in the form of social capital.

Instability of the Black Middle Class

In addition to facing marginalization in the workplace, inferior neighborhoods and schools, and fewer opportunities for advancement, the black middle class must also work harder to stay middle class. Fifty-eight percent of black middle class households required two full-time workers in order to stay middle class, compared to only forty-three percent of white middle class households (Landry 1987). Black families live perilously close to falling out of the middle class.

Oliver and Shapiro (1995) document how the average white middle class family can support its present standard of living for an average of four and one-third months without a regular stream of income. The typical black middle class family, however, cannot support itself for even one month. Not controlling for class, nearly two-thirds of all African-Americans own no financial assets whatsoever. Seventy-two percent of whites, on the other hand, hold financial assets.

The small number of African-Americans who do own assets own distressingly little. An African-American with \$2000 in financial assets would be in the top fifth of the black wealth distribution. The same amount would place them in the fortieth percentile among whites (Oliver & Shapiro 1995). The lack of wealth and inheritable assets among the black middle class poses a serious threat to the transmission of success from one generation to another. With such little wealth to pass on, the next generation must reach middle class status through earnings alone. The white middle class, by contrast, is able to reproduce itself through dual avenues of earnings and inheritance of wealth.

The overall conclusion from the literature is that, while the growth of the black middle class over the last fifty years has been impressive, African-Americans continue to lag behind whites. The black middle class is not as financially secure as is commonly assumed. There is also evidence of a pendulum effect where blacks gain, only to have those gains partially eroded by both political and economic downturns.

What the literature hardly touches, however, is the intergenerational mobility of the black middle class. It is troubling enough that the newly created black middle class has not achieved parity with the white middle class; it would be far worse if the black middle class is unable to reproduce itself. Inevitably, downward attrition from the black middle class would result in all but a handful of African-Americans living in the underclass.

Intergenerational Mobility

The intergenerational mobility of the black middle class should be seen in the context of intergenerational mobility as a whole. A high intergenerational elasticity (IGE) is indicative of a rigid society, as it signifies that an individual's lifetime income is largely a reflection of that of his or her parents'. A low IGE means that society is relatively mobile, and that an individual's income is independent of that of his or her parents'.

There is some debate over the precise amount of intergenerational mobility in the United States right now, with the estimate of IGE typically falling around 0.4 (Solon 1992), or 0.6 and higher (Mazumder 2005). An IGE of 0.4, for example, implies that forty percent of an earnings gap between groups would remain after one generation. This is akin to saying that it would take approximately three to four generations for all earnings advantages and disadvantages to be

erased, and for a household to move to the national average household income. If IGE were 0.6, intergenerational mobility would be substantially lower, and 60% of the earnings gap would remain after one generation. It would then take a family an average of five to six generations to return to the mean income.

IGE is estimated to be significantly higher for families with low net worth, and negligible for the super-rich (Mazumder 2001). This implies that black families will, on average, experience higher IGE/less mobility, as they are overrepresented in the bottom income quintiles. This high estimate of IGE is most likely driven by the large numbers of African-Americans trapped in the underclass, however, who experience little to no mobility over the course of their lives. It remains to be seen how much of the high IGE estimate applies to the black middle class today. (Somewhat counter-intuitively, an IGE of 0.6 for the black middle class would be an excellent finding, as it implies that most blacks in the middle class will experience little social mobility and will remain in the middle class instead of falling to the bottom).

In recent years, there has been a decline in upward mobility across all groups (Duncan et al 1995a; Mazumder 2001, 2005; Duncan, Smeeding, Rogers 1991). Importantly, the younger generation is slower in attaining middle class status. Duncan et al. report that only forty-two percent of males who turned thirty in 1989 to 1992 earned enough to be considered middle class, compared to sixty percent of the males who turned thirty in the period from 1977 to 1988.

Featherman and Hauser provide one of the first analyses of black intergenerational mobility. Using CPS data from the 1962 and 1973 OCG surveys, they found that young African-Americans did not “inherit” low status, but were able to take advantage of the improved access to education and increased occupational mobility. Cohorts born after the mid-1930’s showed higher intergenerational mobility than the general population, while the mobility of younger cohorts was even higher still. The WWII birth cohorts “with the undertaking of their first jobs, bridged a difference in social status nearly equal to the lifetime social mobility of the pre-Depression black cohorts” (Featherman & Hauser 1978). The intergenerational mobility to first jobs of these cohorts was equal to, or greater than, the mobility of whites. These conclusions led Featherman and Hauser to speculate that a slow convergence towards occupational equality for black and white males (Featherman & Hauser 1978).

Such upward intergenerational mobility is only to be expected, however, in light of the radical transformation of American society during the Civil Rights movement and the strong post-war economy. When the careers of young, relatively advantaged black men are compared to their parents who are less fortunate almost by definition, it would be alarming *not* to see upward mobility. The true question is whether or not African-Americans (and specifically the black middle class) have managed to *maintain* an intergenerational elasticity over time that is on a par with whites. In studying a period of extraordinary expanding opportunity for African-Americans, Featherman and Hauser may have captured only a period effect, and not a long-run trend.

In 1988, Hout’s later study of intergenerational occupational mobility found that overall mobility remained unchanged between 1972 and 1985. Hout decomposes mobility into two components (circulation mobility and structural mobility) for a more in-depth analysis.¹ He finds that, while overall mobility was unchanged, a decline in structural mobility actually counterbalanced the decrease in association between socioeconomic origins and destinations.

¹ Circulation mobility is the amount of mobility accounted for by exchange movements up and down the occupational structure; whereas structural mobility is the amount of mobility due to macro-changes in the occupational structure itself.

His findings appear to reject Featherman and Hauser's theory that there is a slow regression towards occupational equality for blacks and whites. According to Hout, the decline in structural mobility exactly offset the increase in circulation mobility arising from the decrease in association between origins and destinations. The net effect on mobility was zero. A detailed reading of his study reveals that for African-Americans this trend is actually an increase in the association between the occupation of the parent and the occupation of the child. It demonstrates occupational persistence, and not upward occupational mobility.

What Hout does show is that a college education or higher eliminates the effect of socioeconomic background. (Origin is still a determining factor in destination status for those with less than a college degree, however). Hout shows that upward mobility exceeded downward mobility in the 1980's, but by a smaller margin than it did in the 1960's and 1970's. Those from the most advantaged backgrounds exhibited the highest degree of upward mobility, irrespective of race (Hout 1984, 1988). This appears to suggest that class is more important than race when it comes to socioeconomic mobility.

A more recent comparison of black/white intergenerational mobility challenges Hout's view. Using the 1972-1989 Cumulative General Social Survey, Davis demonstrates that black males experienced greater downward occupational mobility than white males during the 1970's and 1980's, and that intergenerational occupational persistence levels were higher for white men than for black. Similarly, Davis finds that white fathers in white collar jobs are better able to protect their sons from downward occupational mobility than black fathers in white collar positions. He concludes that race is still a factor in intergenerational mobility (Davis 1995).

Davis' study has some major flaws, however. Critically, he fails to control for the age of the father in his analysis, which will lead to invalid conclusions. It does not make sense to compare the occupation of the father at 50 with the son at age 24, for example. He also uses occupation as his sole measure of comparison, and sorts individuals across five broad occupational categories. Such an analysis loses much of the detail. Finally, his study is severely limited in that it examines only fathers and sons. It fails to take into account the impact of women during a period when they entered the labor force in droves, as well as the high prevalence of single female-headed households in the African-American community.

III. CONCEPTUAL FRAMEWORK

Definition of Class

It is important to arrive at a standard definition of class before attempting to analyze any class differences. Defining class is inherently difficult. The notion of a middle class is central to American society, and yet strangely there is no official, universal definition. Instead the concept of middle class is amorphous and even changes over time (Parker 1972). The typical consumer goods that are associated with the middle class lifestyle tend to change, making intergenerational comparisons difficult. For example, the one bath-one car home of the 1950's is no longer the norm for today's middle class. Similarly, today it is not considered a symbol of middle class status to have a refrigerator, color television, or indoor plumbing as it once was. Generally speaking, sociologists predominantly use occupation categories to assign class, while economists prefer measures of income.

In this study, I use income as my primary measure for several reasons. The first is that occupation does not take unemployment status into account. Not only do African-Americans tend to have higher rates of unemployment, but they are also more likely to drop out of the labor

force due to incarceration or discouragement. Occupation would not capture this activity. Furthermore the status of occupations tends to change across time, which can become problematic in intergenerational studies. For these reasons, and the fact that the PSID provides excellent information on income, I use income quintiles to define class.

Table 1: 2003 Income Quintiles

Year	Upper limit of each fifth (2003 dollars)				Lower Limit of Top 5%
	Lowest	Second	Third	Fourth	
2003	\$17,981	\$33,993	\$54,443	\$86,851	\$154,092

Source: U. S. Census Bureau, Current Population Survey, Annual Social and Economic Supplements, Table H-1. Income Limits for Each Fifth and Top 5 Percent of Households All Races: 1967 to 2005.

Upper limits for each income quintile and the top five percent of households, for all races. The dollar amounts are adjusted to 2003 dollars using the Bureau of Labor Statistics' CPI-U.

Using the U.S. Census Bureau CPS Annual Social and Economic Supplements Table H-1, I define the middle class as households with a pre-tax income between \$25,001 and \$86,851 – a group occupying roughly the middle half of the Census income distribution tables. “Lower Class” is those in the lowest income quintile and in the bottom half of the second quintile (\$0-\$25,000), while “Lower Middle Class” is defined as the top half of the second quintile (\$25,001-\$33,993). The third income quintile (\$33,994-\$54,443) represents the center of the middle class, and the fourth (\$54,444-\$86,851) constitutes “Upper Middle Class”. I define “Upper Class” as all those in the fifth income quintile, or those making \$86,852 per year or more. The middle class (\$25,001-\$86,851) is then the aggregation of “Lower Middle Class”, “Center Middle Class”, and “Upper Middle Class”. Importantly, my quintiles are drawn from the total population, rather than creating separate income quintiles for blacks and whites, as some have done in the past. Creating separate income quintiles by race falsely inflates the number of African-Americans in the middle and upper classes and does not give an accurate portrayal of the real situation.

Measures of Mobility

After defining class, it is necessary to define measures of mobility. To measure the intergenerational mobility of the black middle class, I compare the parents and children across two measures: income (primary measure) and occupation (secondary).

Income

To estimate the intergenerational mobility of the black middle class, I employ transition matrices to estimate the observed probability of moving from one point in the income distribution to another. I also use a simple Markov Model of transmission of income between two generations as specified in eq(1).

$$(1) \quad Y(t) = \beta_0 + \beta_1 Y(t-1) + \varepsilon$$

where Y is log income, t is the “child’s” generation, and $t-1$ represents the “parents” generation. $Y(t)$ can also be thought of as the destination, and $Y(t-1)$ as the origin.

Equation (1) states that the child’s lifetime adult income ($Y(t)$) is a function of the parents’ lifetime adult income ($Y(t-1)$) and a random variable (ε), where $\varepsilon \sim N(0, \sigma^2)$. In this framework, mobility is simply the difference between destination and origin:

$$\text{Mobility} = Y(t) - Y(t-1) = \beta_0 - (1-\beta_1)Y(t-1) + \varepsilon$$

The equation decomposes mobility into two parts. The intercept (β_0) captures the structural mobility – it reflects the amount of growth which has occurred in the economy and is the growth in income across the two generations which is independent of the parents’ income. Structural mobility typically results from a change in the distribution of occupations, expanding opportunities in some and decreasing them in others. The coefficient $(1-\beta_1)$ captures the “circulation mobility”, or opportunity, that an individual experiences. It measures the association between the “child” and his or her parent’s income. In a society with high circulation mobility, there is a lot of opportunity and income and social status are determined primarily by a person’s innate skills and ambitions, not by any inherited advantages or disadvantages.

As I am using log income, β_1 can be read directly as intergenerational elasticity. A high elasticity translates into low intergenerational mobility, and is indicative of a rigid society in which an individual’s income is largely determined by the income of his or her parents. A low elasticity, on the other hand, signifies that mobility is high (both upwards and downwards), and that there is a lot of opportunity for a person to change his socioeconomic position. The lower the elasticity, the more opportunity that exists, and the more likely it is that children with equal abilities will have an equal chance to succeed. Note that it is possible for β_0 and β_1 to work in the same direction, or to work against each other.

Occupation

Occupation is my secondary measure of mobility. I use occupational mobility tables to estimate occupational “inflows” and “outflows” to chart the movement of respondents into and out of middle class occupations. Comparisons are drawn between blacks and whites using both occupational categories, and prestige scores.

The initial question is to determine whether or not the black middle class is reproducing itself. This can occur via two mechanisms: either (1) internal: the children of the black middle class maintain their middle class status as adults, or (2) external: there are new entrants to the middle class over time, as children from upper or lower class black families join the middle class as adults. (Interestingly, if the first scenario is predominant, then this is evidence of a class effect. If the second case prevails, then it suggests that the existence of a black middle class is not perpetuating the black underclass, as some have suggested. Additionally, if the majority of the black middle class is made up of new entrants and reproduction is not occurring internally, then the black middle class appears transitory and limited to a single generation. This raises the issue of the stability of the black middle class).

Mobility is decomposed into “structural mobility” and “circulation mobility” to determine whether the effects of these two components affect blacks and whites differently. Given the dire picture of the black middle class painted by the literature and the general trend of decreased mobility nationwide, I expect to find (relative to whites in the middle class):

Hypotheses:

INTERGENERATIONAL MOBILITY BY RACE: CAN THE BLACK MIDDLE CLASS REPRODUCE ITSELF?

- (1) The black middle class is not able to reproduce itself, and is slowly shrinking in size over time.
- (2) Internal class reproduction is not occurring at the same rate as that of the white middle class. That is to say: the children of middle class blacks are not maintaining their middle class status and are falling out of the middle class at higher rates than the children of middle class whites.
- (3) Internal reproduction is occurring, but only by class and not by income quintile. The black middle class is experiencing a sort of “sedimentary effect” over the years, as blacks fall to the bottom of the middle class and the entire class grows increasingly “bottom-heavy”. Evidence for this would be higher rates of persistence in the fourth income quintile when compared to the second or third.
- (4) External reproduction, or new entrants to the black middle class, is not occurring with the same frequency as it is seen in the white middle class. This means that over time there are few new entrants to the black middle class from other classes, as African-Americans are either trapped in the lower class or part of a “super-elite” upper class. This would be indicated by a high elasticity/low mobility for all African-Americans in the upper and lower classes.
- (5) An overall reduction in the number of middle class blacks over time. If hypotheses one through three are correct, then it would necessarily follow that the black middle class is shrinking over time as African-Americans “fall out” and are not replaced by new entrants.

IV. DATA AND METHODOLOGY

Data Source

The data for this analysis come from the Panel Study of Income Dynamics (PSID), administered by the University of Michigan’s Survey Research Center. The PSID is an annual longitudinal survey which began in 1968 with a national probability sample of 4,800 families. The members of the original sample have been followed as they age, and data have been collected on their offspring throughout childhood and into adulthood. As children mature and form families of their own, these new families are also incorporated into the PSID. As a result, the sample size has grown from the original 4,800 families in 1968 to over 8,000 families by the time of the 2003 survey. The 2003 PSID is nationally representative and contains annual information on over 67,000 individuals. Altogether, the PSID provides rich economic and demographic information spanning as much as thirty-six years of the respondents’ lives.

The PSID has a consistently high response rate of 97% for the core re-interview sample, which provides a thorough collection of data on families over their lives, and ensures that attrition is relatively low. Information is also collected on current co-residents, e.g. spouses, co-habitators, children, and others living with the core members. Due to budget constraints, the PSID switched to biennial data collection in 1997 and reduced the core sample. A “refresher sample” of post-1968 immigrant families and their adult children were added to keep the study representative of the U.S. population.

The PSID contains detailed information on economic and demographic behavior, with a particular eye to income sources and amounts, employment, and family composition. Such data make it possible to relate the income and occupational status of the children as adults to that originally reported by their parents. The annual income data collected represents income from the previous year. The data are available at both the family and individual levels, with the most extensive data available for the family head. Major funding for the PSID comes from the National Science Foundation. For a fuller description of the PSID, see Hill (1992).

The PSID was chosen for this study, not only because it follows children from the original sample into adulthood, but because the dataset contains excellent information on income and the over-sampling of poor households in the late 1960's resulted in a sizeable sub-sample African-Americans. Fortuitously, this over-sampling coincided with the rise of the black middle class, making the PSID one of the few datasets which contains a substantial number of African-Americans for the period in question.

I first measure intergenerational elasticity using income. I examine the income correlation across generations using a life-course approach and match parents and children at age-synchronized points in their life-cycle. This approach has the advantage of observing child/parent head of household pairs at similar stages in their careers. I initially choose to observe heads of households from age thirty-five to age forty-two. These years are chosen as they typically represent the peak earning years and can be taken as a measure of permanent earnings. As earnings generally rise until age forty, an individual's earnings during this eight year period are a good measure of his or her earning capacity (Mincer 1974). Studies have also shown that measures of earnings around age forty may also suffer less attenuation bias than those taken at age thirty, or over age fifty (Gordon 1984; Baker & Solon 1999). As these age requirements result in a rather small sample size for "child" households, they are then extended by five years, in order to increase the size of the sample. The heads of the "child" households are followed from age thirty to age forty-two.

Following Solon (1992), I use more than one year's worth of income data to create measures of permanent income for both the parents and the children. Averaging income over several years reduces the bias from transitory income shocks and measurement error. Using only one year of income can lead to mis-measurement as an individual may have been temporarily laid off, experiencing atypical earnings, or the data may not have been entered correctly. Averaging income over such a large period of time also leads to a more robust estimate of intergenerational elasticity (Mazumder 2005). I average eight years worth of data for the parents over the period when each head is age thirty-five to forty-two, and thirteen years of data for the children over the period when the head is age thirty to forty-two.

Description of Variables

(i) *Total Family Income*: Total family income is calculated as the median total family income for heads of households over the period they are 35 to 42 (30 to 42 for "child" households). It is adjusted to 2003 dollars using the Bureau of Labor Statistics CPI-U, and then logged to correct for skewness. Total family income data is collected each year by the PSID for the preceding year. Total family income is preferred to individual income as it contains the income of all the adults present in the family unit, as well as transfers and assets. Family income is unlikely to be zero (unlike individual income), and is a more robust measure of economic status. This is especially true for females, as the individual labor earnings of women are usually not available. The main difficulty with using total family income is that it does not reflect the number of

dependents present in the family unit. To account for this, I use the Ruggles' Equivalent Income scale to identify equivalent income levels for households of different sizes.² While there is an extensive literature on the use of equivalence scales, the Ruggles Scale was chosen for its simplicity.

(ii) *Occupation*: PSID occupation data is based on the U.S. Census Bureau 3-digit 1970 occupational classification code. Occupations from 1968 to 1981 are coded in 1 or 2-digit codes, but retroactive occupation data is available from the PSID website. Codes for 2003 and 2005 are coded in Census 2000 classifications, but a crosswalk from the National Crosswalk Service Center (NCSC) converts the data to 3-digit 1970 occupation classification codes. Each occupation code can be categorized into one of thirteen groups. If the head has more than one occupation over the eight year period, then the modal value is chosen.

(iii) *Occupational Prestige*: Each occupational code is mapped to an occupational prestige score based on Socioeconomic Index Scores (SEI). The occupational prestige score facilitates more nuanced comparisons between parents and children with disparate occupations. Occupational prestige is also a more accurate measure for heads whose occupation changed during the period in question. Occupational prestige is their mean prestige score over this time. It reflects all the head's occupations in this time, as well as the number of years in each occupation.

(iv) *Race*: Parental race is defined as the race of the head of the household at age 35 to 42. In the rare instances where the race of the head changed during this period, the modal value was chosen. The race of the child is similarly defined as his or her race at age 30 to 42. As the coding of race changed repeatedly throughout the history of the PSID, race was recoded uniformly as: (1) white (2) black (3) Hispanic (4) other. Because the PSID does not provide good coverage of Asians, this group was combined into the (4) "other" category. Due to the low number of Hispanics and "Others", these groups were ultimately dropped.

(v) *Education*: Education for both the parent and the child is defined as the highest year of schooling completed by the head (parent/child) during the time he or she is aged 35 to 42 (parents) or 30 to 42 (children).

(vi) *Sex*: Sex is defined as the gender of the head of the household (parent/child) over the multi-year period. If, in the case of the parent, the gender of the head changes (e.g. the father dies/leaves and the mother becomes head), then the modal value is chosen.

(vii) *Total Number in Family*: This variable reflects the number of people living in the family unit. It is used to control for the effect of family size on consumption and total family income.

(viii) *Region*: Region is added to control for the variability in income and cost of living across labor markets.

(ix) *Relationship to Head & Sequence Number*: These two variables identify individuals who are the (1) head of a household, (2) wife, or (3) "wife" in a given year. Together, they are used to assign income and occupation data to the correct individual within the family unit.

² Ruggles =(Household size)^{0.5}

(x) *Birth Year*: Since I am specifying an age range rather than a birth cohort, I am studying all parents aged 35 to 42 and all children 30 to 42 across the history of the PSID. Birth year is used to identify the generation to which each parent/child belongs.

(xi) *Middle Class*: This is a dummy variable which reflects whether or not the family is in the middle class.

Matching

Parents and children are matched through the PSID Family Identification and Mapping System (FIMS). An intergenerational balanced map is created using both biological and adoptive parents. This file provides the link between parents and children and allows the creation of a subset that contains information on both. Of the just over 8,000 families in the PSID (un-weighted), 4,729 independent child-parent family pairs were successfully created. Of these, approximately 63% (n=2,999 family pairs) have heads in the correct age range. Approximately 94% of the parents' and children's family units (n=2,810 pairs) in this age range are successfully matched to their income data, while 91% are matched to occupational data.

V. FINDINGS

Table 10:

		Decomposition of Intergenerational Mobility				
		Child's Class				
		Upper Class	Upper Middle Class	Middle Class	Lower Middle Class	Lower Class
		(V)	(IV)	(III)	(II)	(I)
White	Structural Mobility (B0)	.899 (.011)***	.855 (.013)***	.682 (.014)***	.640 (.014)***	.723 (.011)***
	Elasticity (B1)	.304 (.007)***	.322 (.008)***	.435 (.009)***	.420 (.009)***	.222 (.007)***
	Circulation Mobility (1-B1)	.696	.678	.565	.580	.778
	Adjusted R Square	.513	.302	.115	.159	.463
Black	Structural Mobility (B0)	.861 (.009)***	.855 (.011)***	.645 (.012)***	.601 (.011)***	.711 (.009)***
	Elasticity (B1)	.138 (.007)***	.309 (.008)***	.414 (.009)***	.397 (.009)***	.219 (.007)***
	Circulation Mobility (1-B1)	.862	.691	.586	.603	.781
	Adjusted R Square	.520	.305	.123	.167	.463

OLS Regression estimates of intergenerational elasticities. Dependent variable = Child's Income (log), adjusted for family size using Ruggles Scale, 2003 dollars. Standard errors given in parentheses. Significance denoted as: *, p<0.05; **, p<0.01; ***, p<0.001.

Hypothesis (1):

The results from the Intergenerational Mobility table (Table 2) indicate that the hypothesis that the black middle class is unable to reproduce and is shrinking over time is false. The data show that the percentage of African-Americans in the middle class is actually growing as newcomers enter from the lower and lower-middle classes.

Hypothesis (2):

The hypothesis that internal class reproduction among middle class blacks is not occurring at the same rate as that of middle class whites and that black children are falling out of the middle class at higher rates than white children is partially rejected. African-Americans in the middle class actually demonstrate more class persistence than their white counterparts. Table 3 shows that 40% of blacks in the middle class remain there in the next generation, whereas the same is true for only 34% of whites. The hypothesis is partially rejected as black children are falling out of the middle class faster than white children. White children of the middle class experience significantly more upward mobility than middle class black children: 30% of white children leaving the middle class are headed to a higher class while, of the black children leaving the middle class, virtually all of them are downwardly mobile.

Hypothesis (3):

Hypothesis (3) – that, if internal class reproduction were occurring, the black middle class would be growing increasingly “bottom heavy” as black children would barely manage to stay middle class and would sink to the lower- middle class – is also rejected. Table 10 reveals that blacks in the middle class have the highest rate of persistence of all the classes. As Table 2 shows, the over-arching trend is for upward mobility. Every single class above the lower class is growing, while the percentage of blacks in the lower class is shrinking. Although 87% of black children originated in the lower or lower-middle class, only 78% remain there as adults. African-American children are moving to the center of the middle class and beyond. The percentage of black children in the middle class or higher is almost 8.5% greater than that of their parents.

Hypothesis (4):

Table 4 indicates that this hypothesis of few new entrants to the black middle class from other classes can also be rejected. The majority of African-Americans in the middle class are in fact new arrivals. As Table 4 shows, over 50% of blacks in the middle class originated in the lower class and an additional 20% came from the lower-middle class. Table 10 shows that the reverse of the hypothesis that African-Americans in the upper and lower classes experience high elasticity/low mobility is actually true: blacks in the upper and lower classes actually experience the most mobility and have lower elasticities than those in the middle class.

Hypothesis (5):

Hypothesis (5), that the black middle class is shrinking over time as African-Americans “fall out” and are not replaced by new entrants, must also be rejected. Hypothesis (5) follows from hypotheses 1-4, which have all been rejected. The black middle class is not shrinking over time, nor are African-Americans perched on the brink of “falling out.” Black, middle class

Americans show more class persistence than middle class whites, and more blacks than whites are joining the middle class.

VI. DISCUSSION

Black family units comprise approximately 12.4% of the total sample, and are found almost proportionately represented in the middle class by 2002. Figure 1 depicts the growth of the black middle class since 1968. Although the size of the middle class has fluctuated over time, the percentage of black families in the middle class has increased steadily from 4% in 1968 to 10.5% by 2002.

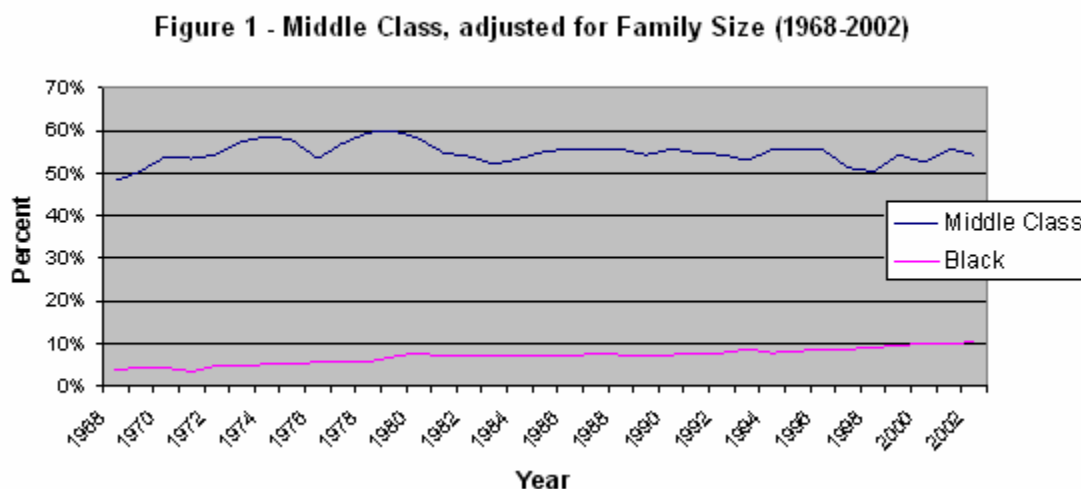
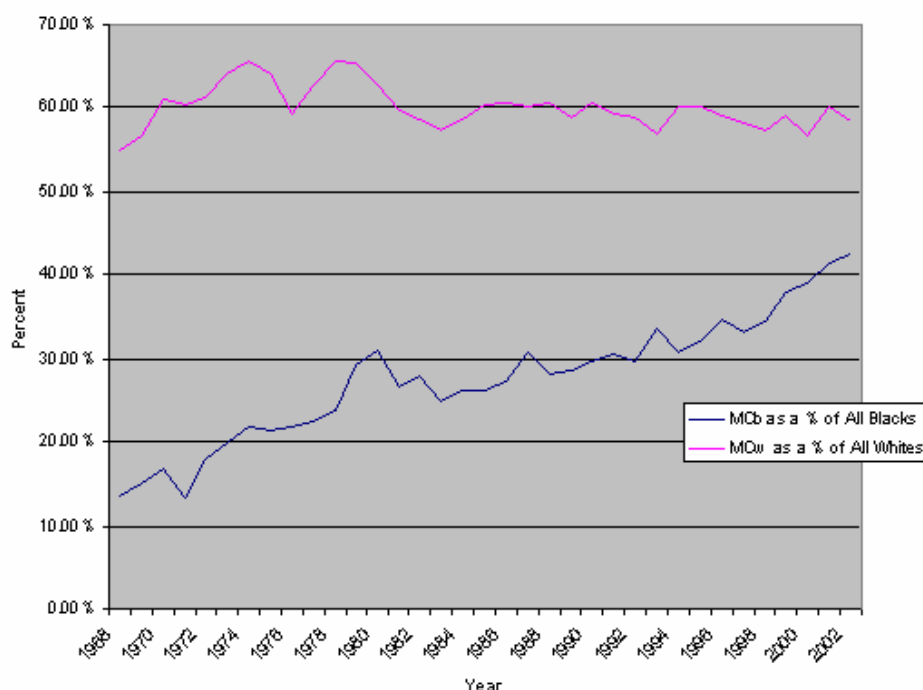


Figure 2 shows the remarkable increase in middle class blacks as a percentage of the total black population. The percentage escalates from just over 13% of all blacks in 1968 to almost 43% in 2002. Although whites appear to be joining the middle class faster than blacks in the late 1960's and 1970's, almost all of this growth of whites in the middle class is lost by 1984. The percentage of whites in the middle class reaches a high of 65% in 1978, only to decline abruptly after this point. Since the mid-1980's, the percentage of whites in the middle class has shown little growth, and hovered around 58%.

Figure 2 - Black/White Composition of the Middle Class (UMC/MC/LMC), adjusted for family size (1968-2002)



While whites in the middle class were hit hard in the early 1980's and declined by 8% in four years, blacks in the middle class proved considerably more robust, showing a smaller drop (5%) in the same period and recovering faster. After strong growth throughout the late 1960's and 1970's, blacks in the middle class weathered the dip of the 1980's and continued to increase their numbers steadily throughout the mid-1990's. Remarkably, the steep rise in the trajectory of the graph after 1995 indicates that the rate of growth in the percentage of blacks in the middle class is growing even faster today than it did during the strong civil rights movements of the late sixties and early seventies.

Figures 3 and 4 show the class distribution of blacks and whites respectively over time. These graphs break down the middle class into three tiers, so that it is possible to observe exactly where the growth in the middle class is occurring. The most striking line is that of lower class blacks. The percentage of blacks in the lower class has been halved in just thirty-four years. The percentage of blacks in the lower class falls from almost 90% in 1968 to 50% by 2002. This is double the rate of decline seen in lower class whites during the same time period.

Figure 3 - Class Distribution of Blacks, adjusted for family size (1968-2002)

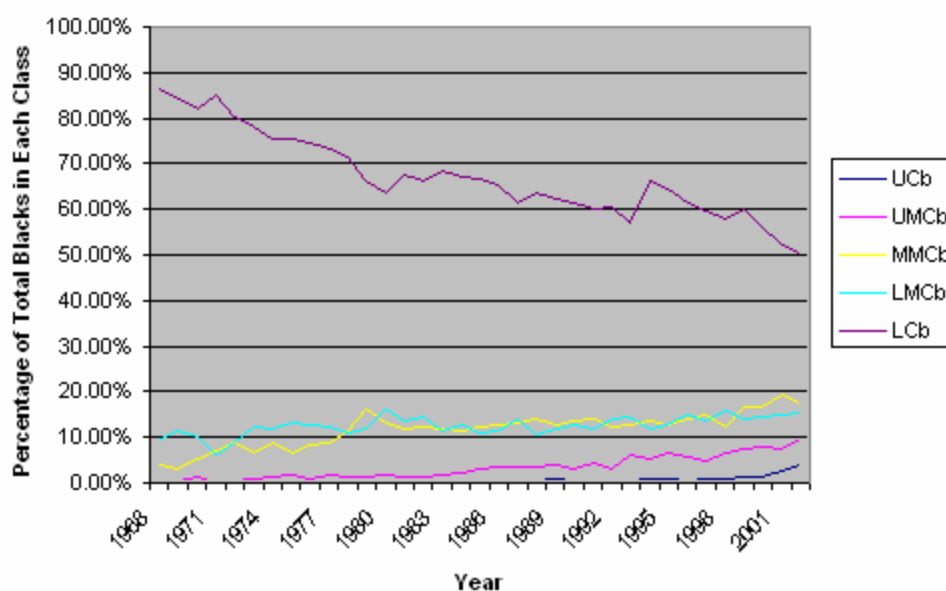
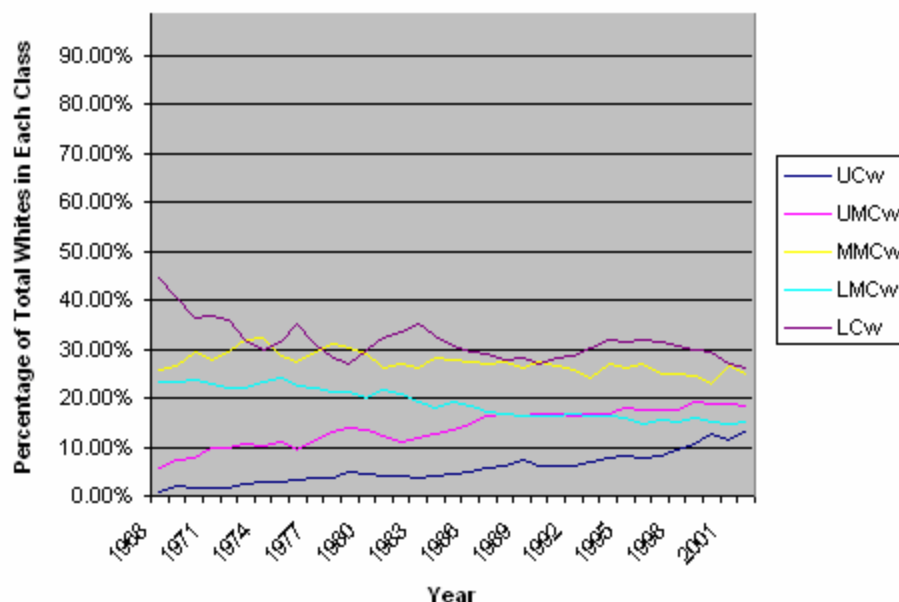


Figure 3 reveals that not only has the percentage of blacks in the lower class fallen dramatically, but that the upward flow is shared among all the other classes – every single other class has experienced growth. In 1968, 97% of blacks are concentrated at the bottom end of the income distribution, with approximately 87% in the lower class and 10% in the lower-middle class. Less than 4% of all African-Americans fall outside the two lowest classes. By 2002 however, almost eight times this number (32%) are middle class or above. The center of the middle class (those making between \$33,994 and \$54,443 after adjusting for family size) shows the most growth, increasing from less than 4% in 1968 to almost 18% in 2002. The lower-middle class shows slower but sustained growth over the entire period, growing from 10% to 15%. While only 0.04% of blacks are in the upper-middle class in 1968, that number swells incredibly to almost 10% by 2002, with most of the growth occurring after the mid-1980's.

The percentage of African-Americans in the upper class is slower to grow, with blacks not appearing in any real numbers until the 1980's, and then witnessing slow growth until the turn of the millennium when the percentage increases rapidly from 0.86% in 1997 to 3.75% in 2002. Unfortunately, it is too soon to tell whether this accelerated rise in the percentage of blacks in the upper class is a sustained trend, although it is clear from the graph that the number of blacks in the upper class is increasing steadily, albeit slowly, over time.

As African-Americans are moving out of the lower class and into higher classes, the distribution of the white population is also changing. Figure 4 shows the class distribution of whites from 1968 to 2002 as percentages of the total white population. The overall trend is also for upward mobility for whites. The percentages of whites in the lower class, lower-middle class, and middle class are all declining, while the upper-middle class and upper class are growing steadily. Whites are leaving the middle class and joining the ranks of the upper middle class and upper class. The percentage of whites in the upper class increased by approximately 13% between 1968 and 2002. This is approximately four times faster than the growth in the percentage of blacks in the upper class over the same time period.

Figure 4 - Class Distribution of Whites, adjusted for Family Size (1968-2002)



These shifts are also evident in comparisons between generations. The overall intergenerational mobility pattern is for only moderate levels of class inheritance, with considerable movement between classes. Blacks show slightly more class mobility than whites. The gamma coefficients (0.374 for whites and 0.327 for African-Americans)³ support this conclusion. Class inheritance between parents and children is greatest in the lower class, particularly for black individuals, while blacks in the middle class also display somewhat higher levels of class inheritance than whites.

Table 2 presents intergenerational mobility by class and race. It shows the movement between the parent's class and the child's class while they are both at similar ages. Comparing the origin and destination distributions, a dramatic change in class structure becomes apparent. Overall, there has been a general upgrading of class structure for both blacks and whites.

³ This indicates a 37.4% reduction in guessing errors by using the parent's class to predict the child's class for whites, and a 32.7% reduction in guessing errors in predicting the class of black children.

Table 2: Intergenerational Mobility Table by Class, by Race

			<u>Destination</u>						
			Upper Class	Upper Middle Class	Middle Class	Lower Middle Class	Lower Class	Total	Marginal Dist.
<u>Origin</u>	White	Upper Class	25	148	113	-	33	319	1.73%
		Upper Middle Class	294	500	395	257	179	1625	8.79%
		Middle Class	533	1593	2277	1193	1188	6784	36.71%
		Lower Middle Class	203	933	1083	945	1141	4305	23.30%
		Lower Class	53	466	1418	1130	2379	5446	29.47%
		Total	1108	3640	5286	3525	4920	18479	
		Marginal Dist.	6.00%	19.70%	28.61%	19.08%	26.62%		
Black			Upper Class	Upper Middle Class	Middle Class	Lower Middle Class	Lower Class	Total	Marginal Dist.
		Upper Class	-	-	-	-	-	-	-
		Upper Middle Class	-	-	-	-	-	-	-
		Middle Class	6	-	145	58	148	357	13.15%
		Lower Middle Class	-	24	83	98	180	385	14.19%
		Lower Class	50	33	244	387	1258	1972	72.66%
		Total	56	57	472	543	1586	2714	
		Marginal Dist.	2.06%	2.10%	17.39%	20.01%	58.44%		

Symmetric Measures			Value	Asymp. Std. Error(a)	Approx. T(b)	Approx. Sig.
White	Ordinal by Ordinal	Gamma	0.373922	0.007249929	49.7258724	0.000
	N of Valid Cases		18479			
	Ordinal by Ordinal	Gamma	0.327182	0.029475513	9.787946175	0.000
		N of Valid Cases	2714			
a	Not assuming the null hypothesis.					
b	Using the asymptotic standard error assuming the null hypothesis.					

The marginal distributions indicate that the white upper class and upper-middle class are increasing in relative size, while the middle class, lower-middle class and lower class have all declined. Only 1.73% of white children came from upper class families, but 6% of them are themselves in the upper class. Similarly, only 8.79% of white children came from the upper-middle class, but more than twice that many (19.7%) are upper-middle class as adults. While the bottom three classes have all declined, the white middle class has shrunk the most: 36.71% of children originated in the middle class but only 28.61% are there as adults.

For African-Americans, the boost impacts all classes, but occurs mainly at the bottom of the income distribution. Although blacks are still disproportionately represented in the lower

class, blacks are moving out of the lower class almost five times faster than whites. While 72.66% of black children originated in the lower class, only 58.44% are there as adults.

Table 3 shows a breakdown of the “outflows”, or the percentage of those from each origin class who are found in each destination class. The percentages in the table, computed horizontally, reveal the outflow from class origins to class destinations. The figures in the main diagonal of the table show the degree of class immobility, or percentage of children whose own class is the same as their parents. The majority of blacks leaving the lower class tend to move into the lower-middle class, and at approximately the same rate as whites. Lower class blacks move at a slower rate than whites into the middle and upper-middle class, but proportionally more than two and a half times as many blacks as whites make the jump straight from the lower class into the upper class.

Table 3: Intergenerational Mobility: “Outflows” Table

			<u>Destination</u>					Sample Size (%=100)
			Upper Class	Upper Middle Class	Middle Class	Lower Middle Class	Lower Class	
<u>Origin</u>	White	Upper Class	0.078	0.464	0.354	0.000	0.103	319
		Upper Middle Class	0.181	0.308	0.243	0.158	0.110	1625
		Middle Class	0.079	0.235	0.336	0.176	0.175	6784
		Lower Middle Class	0.047	0.217	0.252	0.220	0.265	4305
		Lower Class	0.010	0.086	0.260	0.207	0.437	5446
		Sample %	0.060	0.197	0.286	0.191	0.266	18479
	Black	Upper Class	-	-	-	-	-	-
		Upper Middle Class	-	-	-	-	-	-
		Middle Class	0.017	0.000	0.406	0.162	0.415	357
		Lower Middle Class	0.000	0.062	0.216	0.255	0.468	385
		Lower Class	0.025	0.017	0.124	0.196	0.638	1972
		Sample %	0.021	0.021	0.174	0.200	0.584	2714

Although lower class blacks traditionally demonstrate greater class immobility than whites (63.79% vs. 43.68% here), this study shows that this is not the only class in which African-Americans show stronger persistence. African-Americans in the middle class also display a higher degree of class inheritance than middle class whites: 40.62% of blacks originating in the middle class remain there as adults, compared to 33.56% of whites. This indicates that blacks in the middle class experience more class stability than whites.

One of the reasons why blacks in the middle class show higher rates of persistence, however, is because middle class whites are more upwardly mobile. While blacks are more likely than whites to stay in the middle class, they are far less likely to advance to a higher class. Just over 31% of whites originating in the middle class move to the upper or upper-middle class, whereas only 1.68% of middle class blacks move to a higher class. Instead, middle class African-Americans display significantly more downward mobility than middle class whites.

Almost 60% of blacks in the middle class fall out by the children's generation, but only 35% of middle class whites do. Whites leaving the middle class are almost equally divided between moving to a higher class and moving to a lower class. Almost all blacks leaving the middle class, however, are headed to a lower class.

Table 4 shows these "inflows", or the composition of each class in terms of the class origin of its members. The black middle class draws primarily from the lower class for its members. Only 30% of African-Americans currently in the middle class originated the middle class, whereas 18% came from the lower-middle class and a full 52% came from the lower class. The white middle class by contrast relies mainly on itself for reproduction. Forty-three percent of present middle class whites originated in the middle class, and no other class contributes more than about a quarter of the total.

Table 4: Intergenerational Mobility: "Inflows" Table

			<u>Destination</u>				
			Upper Class	Upper Middle Class	Middle Class	Lower Middle Class	Lower Class
<u>Origin</u>	<u>White</u>						Sample %
	Upper Class		0.023	0.041	0.021	0.000	0.007
	Upper Middle Class		0.265	0.137	0.075	0.073	0.036
	Middle Class		0.481	0.438	0.431	0.338	0.241
	Lower Middle Class		0.183	0.256	0.205	0.268	0.232
	Lower Class		0.048	0.128	0.268	0.321	0.484
	Sample Size (%=100)		1108	3640	5286	3525	4920
							18479
			Upper Class	Upper Middle Class	Middle Class	Lower Middle Class	Lower Class
<u>Black</u>							Sample %
	Upper Class		-	-	-	-	-
	Upper Middle Class		-	-	-	-	-
	Middle Class		0.107	-	0.307	0.107	0.093
	Lower Middle Class		0.000	0.421	0.176	0.180	0.113
	Lower Class		0.893	0.579	0.517	0.713	0.793
	Sample Size (%=100)		56	57	472	543	1586
							2714

Amazingly, many high socio-economic level African-American children appear to be skipping the middle class altogether and moving directly to the upper or upper-middle class. Almost 90% of blacks in the upper class grew up in lower class families, while only the remaining 10% are from the middle class. The upper-middle class shows a similar trend: approximately 40% of its black members came from the lower-middle class and almost 60% came directly from the lower class.

While Table 3 shows the percentage of African-Americans in the middle class experience higher class inheritance than whites, Table 4 shows that the percentage of middle class blacks is also expanding. The percentage of blacks in the middle class as a destination exceeds the percentage as an origin. The majority of blacks in the middle class are newcomers who have

moved up from the lower class. The percentage of whites in the middle class, on the other hand, not only displays lower rates of class inheritance but is actually declining slightly in size as middle class whites move out and fewer members of other classes move in.

With unprecedented numbers of African-Americans moving out of the lower classes and into the middle class at the same time as whites are moving out of the middle class and becoming stratified between the upper and lower classes, what is happening to overall equality? Table 5 shows the dissimilarity indices between blacks and whites in 1968 and 2002, as well as between parents and children.

Table 5: Dissimilarity Indices (%)

Parents				1968			
	Black	White	DI		Black	White	DI
UC	0	1.8	0.9	UC	0	0.8	0.4
UMC	0	9.7	4.85	UMC	0.04	5.6	2.78
MC	13.5	36.6	11.55	MC	3.93	25.9	10.985
LMC	14.2	23.1	4.45	LMC	9.58	23.36	6.89
LC	72.3	28.9	21.7	LC	86.37	44.35	21.01

Children				2002			
	Black	White	DI		Black	White	DI
UC	1.9	5.7	1.9	UC	3.75	13.61	4.93
UMC	2.2	18.6	8.2	UMC	9.5	18.44	4.47
MC	18	29.1	5.55	MC	17.64	22.78	2.57
LMC	20.2	19.5	0.35	LMC	15.4	15	0.2
LC	57.8	27.2	15.3	LC	50.35	26.32	12.015

The dissimilarity index is a measure of the evenness with which blacks and whites are distributed across the classes. These dissimilarity indices indicate the percentage of cases that would be required to change class in order to make origin and destination distributions identical. Each index is computed as:

$$\frac{1}{2} \sum_{i=1}^N \left| \frac{b_i}{B} - \frac{w_i}{W} \right|$$

where

b_i = the black population of the i^{th} class

B = the total black population

w_i = the white population of the i^{th} class

W = the total white population

The comparisons between the two fixed points in time (1968 and 2002) and between the parents and children reveal the same thing: the racial distribution in the lower and middle classes is becoming more equal, but the racial disparity at the top is now even greater than it was in the past. The middle class shows less than half of the dissimilarity between children as it did between parents and, in 2002, only 23% of the dissimilarity seen in 1968. At the upper end of

the spectrum, however, dissimilarity has only grown. The upper-middle class is almost twice as dissimilar by race for the children as it is for the parents. The upper class shows the greatest dissimilarity of all: comparisons between parents and children by race yield approximately twice as much dissimilarity among the children as parents, and the disparity is twelve times greater between blacks and whites in 2002 than it was in 1968 – a time when very few people of either race were considered upper class.⁴

Table 6: Descriptives - Children

		CHILDREN											
		Lower Class		Lower Middle Class		Middle Class		Upper Middle Class		Upper Class		Total	
		White	Black	White	Black	White	Black	White	Black	White	Black	White	Black
		Column %	Column %	Column %	Column %	Column %	Column %	Column %	Column %	Column %	Column %	Column %	Column %
Sex	Male	51.6	32.7	65.3	61.2	75.1	55.9	75.2	70.8	77.7	93.4	67.0	44.6
	Female	48.4	67.3	34.7	38.8	24.9	44.1	24.8	29.2	22.3	6.6	33.0	55.4
Housing	Owns home (or trailer, fully or jointly)	35.6	19.7	58.0	34.5	70.1	43.5	74.4	52.4	68.9	93.4	59.2	29.0
	Rents (or shares rent)	55.5	68.7	35.7	65.1	27.6	51.2	21.5	47.6	29.1	6.6	35.7	63.2
	Neither (owns nor rents)	8.9	11.6	6.2	.4	2.3	5.3	4.1	-	2.0	-	5.2	7.7
Region	Northeast	16.9	21.8	12.5	22.6	18.0	43.9	28.1	-	19.1	6.6	18.5	25.1
	North Central	29.1	15.2	23.9	13.3	22.3	6.2	23.5	6.6	10.8	10.7	24.0	12.9
	South	34.1	50.8	40.6	58.4	41.3	41.2	28.5	49.5	40.4	82.6	36.9	51.2
	West	18.8	12.2	22.4	5.8	17.1	8.7	19.9	43.8	22.4	-	19.4	10.8
	Alaska, Hawaii	.9	-	-	-	.5	-	-	-	.0	-	.4	-
	Foreign Country	.2	-	.6	-	.7	-	-	-	7.3	-	.8	-
Highest Level of Education	Completed 9th Grade	-	-	-	-	-	-	-	-	-	-	-	-
	Completed 10th Grade	4.3	5.0	2.4	-	1.6	-	-	-	-	-	2.1	3.3
	Completed 11th Grade	7.3	12.0	-	4.3	1.2	-	-	-	-	-	2.2	8.8
	Completed 12th Grade	58.1	52.8	43.9	56.7	35.2	27.4	18.0	46.5	23.6	-	39.1	50.0
	Completed 1st Yr College	12.7	10.9	12.0	5.1	7.1	-	3.2	17.3	4.8	-	8.7	8.5
	Completed 2nd Yr College	12.6	11.8	11.9	14.9	10.7	43.9	10.7	-	11.8	-	11.5	16.4
	Completed 3rd Yr College	.5	2.9	9.0	4.7	4.7	20.8	5.2	-	8.7	-	4.8	5.6
	Completed 4th Yr College	4.0	4.5	11.7	13.5	22.4	7.9	49.7	-	28.1	-	20.8	6.6
	At least some post-graduate work	.5	-	9.1	.8	17.1	-	13.2	36.2	23.1	100.0	10.8	.9

⁴ The parent/child comparisons by race show less dissimilarity than the comparisons between 1968 and 2002 as they are not fixed points in time, but rather span data from the entire period.

Table 7: Descriptives – Parents

		PARENTS											
		Lower Class		Lower Middle Class		Middle Class		Upper Middle Class		Upper Class		Total	
		White	Black	White	Black	White	Black	White	Black	White	Black	White	Black
		Column %	Column %	Column %	Column %	Column %	Column %	Column %	Column %	Column %	Column %	Column %	Column %
Sex	Male	100.0	100.0	100.0	100.0	99.8	100.0	100.0	-	100.0	-	99.9	100.0
	Female	-	-	-	-	.2	-	-	-	-	-	.1	-
Housing	Owns home (or trailer, fully or jointly)	72.4	44.8	87.8	67.4	89.6	52.2	93.6	-	94.3	-	84.7	49.0
	Rents (or shares rent)	23.4	46.9	9.2	32.6	9.2	46.4	5.3	-	-	-	12.7	44.8
	Neither (owns nor rents)	4.1	8.3	3.0	.0	1.2	1.4	1.1	-	5.7	-	2.5	6.2
Region	Northeast	19.8	21.3	23.0	13.6	24.0	34.5	28.6	-	33.1	-	23.2	22.0
	North Central	35.0	10.5	39.1	21.0	24.8	17.8	16.6	-	18.8	-	30.1	13.0
	South	30.2	56.3	20.1	59.9	32.0	35.7	36.3	-	30.4	-	29.1	54.0
	West	15.1	12.0	17.8	4.1	18.5	12.0	18.5	-	17.7	-	17.3	10.8
	Alaska, Hawaii	-	-	-	-	-	-	-	-	-	-	-	-
	Foreign Country	-	-	-	1.4	.6	-	-	-	-	-	.2	.2
Highest Level of Education													
	Completed 9th Grade	1.8	10.7	-	-	-	-	-	-	-	-	.5	6.7
	Completed 10th Grade	16.0	17.6	8.4	8.2	2.8	3.8	-	-	-	-	7.0	13.2
	Completed 11th Grade	13.4	13.4	3.0	16.3	3.6	-	-	-	-	-	5.4	11.2
	Completed 12th Grade	46.6	52.2	54.1	59.3	29.0	30.3	11.7	-	14.5	-	37.1	48.9
	Completed 1st Yr College	6.5	.4	4.0	7.6	7.7	9.5	11.5	-	7.0	-	6.9	3.5
	Completed 2nd Yr College	7.3	-	8.2	8.6	15.6	46.8	19.1	-	6.5	-	12.0	11.0
	Completed 3rd Yr College	1.2	5.1	1.8	-	3.4	-	3.6	-	-	-	2.4	3.2
	Completed 4th Yr College	4.8	.6	12.2	-	26.8	9.6	47.4	-	55.5	-	20.7	2.3
	At least some post-graduate work	2.3	-	8.3	-	11.2	-	6.7	-	16.6	-	8.0	-

One of the biggest differences between parents and children is the number of female-headed households. For both black and white parents alike, the head of the household is almost invariably male – regardless of class. For the children, however, the number of female-headed households has risen dramatically. While the greatest number of female heads of households are in the lower classes, substantial numbers of black and white women appear as heads in the middle and upper classes. A full 44% of middle class black families are headed by women, while almost 25% of middle class white heads are female. The percentages are similar for upper-middle class and upper class families. In terms of race, black children are considerably more likely to be in a female-headed household than whites for all classes, except the upper class. Only 6.6% of black upper class households are headed by women, compared to 22.3% of white.

Another major difference between the families of parents and children is the average family size. Family size has fallen across the board for the children. The average parental family size is 5 for whites and 7 for blacks – compare this to the children, where average family size has fallen to 3 for whites and 2 for blacks. The extreme case is upper class black families, which have an average family size of 1. Middle class families have shrunk from an average of 4 for blacks and 5 for whites to 2 and 3, respectively. Black children have smaller families than whites for all classes except the lower class, where the average family size is 3 irrespective of race. Unfortunately, due to data constraints, it is difficult to know how much of the decrease in family size is attributable to families having fewer children versus the increased prevalence of divorce and the rise of professional care for the elderly.

This movement towards a smaller family size helps to camouflage the fact that median real incomes have fallen for all classes. Children are making less than their parents, and African-Americans are still making less than whites. Adjusted to 2003 dollars, the median income of parents unadjusted for family size is considerably higher than that of the children. With little difference by race, the median income of children in the lower class is almost half that of their parents. Whites in the middle class make just 73% of what their parents make, while blacks make only 61%. This discrepancy almost doubles the difference between the median incomes of black and white children in the middle class compared to the difference between their parents.⁵

Table 8: Descriptives II - Children

	CHILDREN II											
	Lower Class		Lower Middle Class		Middle Class		Upper Middle Class		Upper Class		Total	
	White	Black	White	Black	White	Black	White	Black	White	Black	White	Black
Median Family-Size Adjusted Income (2003 \$)	17,966.84	13,868.23	29,223.43	29,424.41	41,394.95	42,628.67	67,324.52	61,502.36	108,239.84	96,300.00	35,823.26	20,400.88
Median Income, unadjusted for family size (2003 \$)	24,352.86	20,149.77	49,739.58	41,358.00	63,425.50	47,808.60	97,370.00	86,977.47	168,484.87	96,300.00	55,305.34	32,643.70
Total Number in Family (Mean)	3	3	3	2	3	2	2	2	2	1	3	2
Average Work Hours (Annual)	1,679.63	1,366.90	2,201.46	1,969.68	2,239.38	2,062.44	2,284.69	1,948.20	2,413.46	2,067.82	2,101.63	1,634.04
Occupational Prestige	36.48	32.82	43.50	38.23	45.85	38.62	49.93	41.53	54.27	45.04	44.21	35.26
Median Housing Value	30,020.99	10,268.79	61,096.47	19,939.24	84,795.67	43,344.13	145,033.28	84,776.04	191,686.72	292,659.97	82,724.23	25,057.43

Table 9: Descriptives II – Parents

	PARENTS II											
	Lower Class		Lower Middle Class		Middle Class		Upper Middle Class		Upper Class		Total	
	White	Black	White	Black	White	Black	White	Black	White	Black	White	Black
Median Family-Size Adjusted Income (2003 \$)	19,634.42	12,781.06	29,915.13	30,201.11	41,164.90	41,753.69	61,048.84	-	101,227.26	-	33,068.76	17,403.62
Median Income, unadjusted for family size (2003 \$)	45,282.40	38,577.44	66,130.29	64,490.00	87,294.94	78,919.30	135,093.40	-	217,518.00	-	69,811.74	41,173.26
Total Number in Family (Mean)	6	8	5	5	5	4	4	-	4	-	5	7
Average Work Hours (Annual)	2,227.78	1,913.91	2,280.80	2,087.19	2,442.14	2,256.60	2,613.52	-	2,851.61	-	2,367.59	1,984.89
Occupational Prestige	37.65	27.06	42.64	31.00	49.13	43.78	50.45	-	55.44	-	44.63	30.15
Median Housing Value	57,534.50	25,138.61	104,925.47	69,037.09	140,114.63	44,346.85	190,358.35	-	294,707.48	-	116,015.05	33,970.47

Once median incomes are adjusted for family size, however, African-Americans close the gap. Middle class black families actually have higher median incomes, adjusted for family size, than their white counterparts. This does not reflect greater earning potential, however, but smaller family sizes among middle class African-Americans. This suggests that a considerable amount of the upward mobility of blacks in the second generation is due to a reduction in family size, rather than increased earnings.

VII. CONCLUSION

⁵ The difference in median incomes (unadjusted for family size) between black and white parents is approximately \$8,000. The difference between the median incomes (unadjusted for family size) of black and white children is approximately \$15,500.

It appears that, while the black middle class is reproducing itself, it shows little upward mobility into the higher classes. Instead, blacks in the middle class are narrowing the economic gap between themselves and middle class whites. Black children in the middle class show less than half the socio-economic dissimilarity that existed in their parents' generation. African-Americans are staying middle class, and becoming more solidly middle class. Importantly, however, they are not yet advancing to the upper classes at the same rates as whites, and blacks leaving the middle class demonstrate a high degree of downward mobility. Middle class African-Americans still have less wealth than whites, lower home ownership, and typically hold jobs with lower occupational prestige. Although a greater percentage of blacks than whites remain in the middle class, almost all African-Americans leaving the middle class are headed to the lower class. Middle class whites, on the other hand, show much greater upward mobility into the upper classes and are almost as equally likely to move up as they are to move down. Approximately half as many whites as blacks move from the middle class to the lower class.

Added to this, African-Americans are still concentrated at the lower end of the income distribution and are only just beginning to appear in any number in the upper classes. Despite the general upward shift of black advancement out of the lower classes and into higher classes, the socio-economic dissimilarity between upper-class blacks and whites has almost doubled. Of course, it is too soon to provide a definitive conclusion for the state of the black upper class. Almost all black entrants to the upper classes are new, and it is likely that upper-class blacks are still solidifying their position, and that there will be more entrants over time – the majority coming directly from the lower class, if the current trends continue. The majority of the black child family heads are still young, and their final socio-economic path remains to be seen. What is clear is that the percentage of blacks in the middle class is growing steadily over time, and the upper classes are starting to show small signs of increasing numbers of African-American families. This study should be revisited in the future, as more data become available.

Acknowledgements

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