The Implementation and Utilization of Stop the Tenure Clock Policies in Canadian and U.S. Economics Departments

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Abstract (JEL: J16, J78)

Stop the Tenure Clock (STC) policies allow tenure-track faculty members to extend their probationary periods and thus postpone their tenure reviews for one, or more semesters. During the 1990s colleges and universities increasingly recognized that many events, that affect both men and women, can be a source of noise in a tenure candidate's record, including; birth or adoption, serious illness, etc. Although professors are typically able to return to productive teaching, research, and service after such events, one or two such events, occurring during the five year probationary period can seriously distort a probationary professor's record. While available to both men and women professors, STC policies, if utilized and properly implemented, can potentially benefit women faculty members in particular. Of the various reasons for which the tenure clock may be stopped, childbirth has disproportionate, albeit impermanent, effects on the productivity of mothers, relative to fathers.

This paper formally analyzes two data sets in order to provide empirical information regarding the utilization and implementation of STC policies. First, every fall, since 1998, the Center for Business and Economic Research (CBER) at the University of Arkansas surveys 350-400 chairs of departments of economics at U.S. and Canadian universities and colleges (and a handful of non-academic institutions) in order to collect data on the labor market for new Ph.D.s in economics. The CBER's survey data is utilized to examine time trends in the adoption, utilization and implementation of STC policies in the economics departments of the respondents.

Second, data is analyzed from an email survey of 329 ladder-rank faculty who were employed in the 180 economics departments that responded to the CBER's 2003 survey. Questions regarding utilization of STC policies, perceptions of their value, and knowledge of the instructions given to tenure and promotion committees are analyzed with respect to demographic variables in order to assess whether or not STC policies are functioning as they were intended.

I. Introduction

Stop the Tenure Clock (STC) policies allow tenure-track faculty members to extend their probationary period and thus postpone their tenure review for one, or more semesters. Although some research has examined the prevalence of such policies, little attention has been focused on exactly how these policies are being implemented and how often they are being utilized (Center for the Education of Women, 2007; Mason, et. al., 2005). This paper extends current research by examining aspects of policy implementation, utilization, and perceptions of policy usefulness in departments of economics in the U.S. and Canada.

Section II identifies the policy problem STC policies were originally meant to alleviate – specifically women's disproportionate rates of promotion to the ranks of associate and full professor. Section III examines the specifics of the tenure review process and how the facially neutral seven-year tenure clock creates greater hurdles for pre-tenure female faculty than for pre-tenure male faculty. Section IV argues that STC policies can theoretically be an effective policy intervention to alter the tenure process in a way that would make it more fair for women and also increase the efficiency of the academic labor market – to the benefit of current faculty and administrators. In Section V survey data, collected at the departmental level, by the University of Arkansas' Center for Business and Economic Research, over a ten year period are utilized to examine time trends in the adoption, utilization and implementation of STC policies. Section VI analyzes the potential effectiveness of STC policies by evaluating the results of 329 individual survey respondent's answers to questions about STC policies in their economics departments. A conclusion follows.

II. The Policy Problem: Women's Lack of Progress up the Academic Career Ladder

There are a number of faculty career paths in higher education, but the path that offers the most compensation and the most job security is a full-time appointment on the path leading from assistant professor on the tenure-track, to associate professor with tenure, to full professor. Data collected by the U.S. Department of Education (National Survey of Post-Secondary Faculty), the National Science Foundation (Survey of Doctoral Recipients), the American Association of University Professors (Annual Faculty Salary Survey) all show a multi-decade pattern of disproportionate rates of promotion up the

academic career ladder for female faculty relative to male faculty. Data published in the annual report of the Committee on the Status of Women in the Economics Profession (CSWEP) during the last 15 years also shows disproportionate rates of promotion for women academic economists.

No matter which of the above data sets is used, the percentage of faculty who are male increases at each higher rung in the career ladder, while the percentage of female faculty decreases. In the ladder ranks[1], male faculty are most concentrated at the rank of full professor and female faculty at the rank of assistant professor. This result holds for different institutional types (i.e., Doctoral university, Master's university and Baccalaureate college). It also holds for public and private universities, for different academic disciplines (i.e., humanities, social sciences, and natural sciences) – and it has persisted since 1972 when the 1964 U.S. Civil Rights Act's prohibitions against discrimination based on sex were extended to higher education. Table 1 uses AAUP data and shows the pattern for faculty in general during the 1988-89 to 2007-08 academic year.

Women have made very little progress during this 20-year period. While women's rates of securing jobs on the first rung of the academic career ladder had approached those of men in 2007-08, the percentage of women faculty holding the rank of full professor increased at disproportionately low levels. Table 2 shows that women economists, by comparison are faring worse than academic women in general. When considering only women faculty employed by Ph.D. granting institutions, the women economists make up only 8.1% of the full professors, while nation-wide women make up just over 20% of the full professorate.

What is most remarkable about women's lack of movement up the ladder ranks is that it can no longer be cast as a "pipeline problem". According to data from the National Science Foundation's Survey of Earned Doctorates women doubled the rates at which they earned doctorates between 1976-2006. Figure 1 illustrates that the small percentages of women at the rank of full professor cannot be caused by small percentages of women emerging from the Ph.D. pipeline.

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[1] The term "ladder ranks" is used to refer to full-time faculty positions, either tenured or tenure –track, at the ranks of assistant, associate, or full professor.

As Hochschild (1975) pointed out the tenure system and the corresponding expectations of ladder rank faculty evolved in a time when professors were likely to be married men with stay-at-home wives who performed the work of home production. Although the demands imposed on ladder rank faculty have not changed in significant ways since the seven year tenure clock was created, the demographics of the professorate have changed dramatically – with women now earning over 50 percent of the doctorates awarded to U.S. citizens (Survey of Earned Doctorates, 2006). Home production is still sub-contracted to the family which means disproportionately to the female partner. If she also happens to be an assistant professor, the structure of the tenure system will negatively impact her ability to move up the career ladder.

Trying to sequence career and family formation by delaying child bearing until after the tenure decision is not viable for most academic women. According to the 2006 Survey of Earned Doctorates, the median age at which women received their degrees was 33.2 years. Assuming a normal tenure clock, with review in the sixth year, also assuming that a woman doesn't do a post-doc (common in life sciences, not so common in other disciplines), and assuming that a woman lands a tenure-track position (not a contingent faculty position) her first year our of graduate school, puts women in the position of trying to begin families in their early forties, an age by which fertility has declined substantially and the likelihood of genetic defects rises.

Research by Mason and Goulden (2002) shows that for women attempts to simultaneously start a family and a ladder rank academic career is fraught with difficulties. Mason and Goulden use data from the NSF's Survey of Doctoral Recipients to examine the career outcomes of men and women who earned their doctorates between 1978-1984 – and who were still working in academia 12-14 years after earning their degrees. They focus on the different tenure outcomes for three demographic categories of faculty: women with "early babies" (i.e., babies born within 5 years of completion of the doctoral degree), men with early babies, and women who had "late babies" (i.e., babies born 6 or more years after receipt of the doctoral degree). A summary of their findings appears in Table 3. What their research demonstrates is that women with early babies are the least likely demographic to earn tenure. Women who delay or forgo childbearing

earn tenure at higher rates. But, neither group of women meets with the same level of success that is enjoyed by men with early babies.

Ginther and Kahn (2004) examine SDR data for economists in particular, using the 1973-2001 waves of the SDR. Controlling for a variety of observable characteristics, including race, sex, marital status, presence of children, number of papers and publications, they find that women in economics are about 15 percent less likely than men to be promoted to tenure after controlling for all variables. Men in economics (as well as in other disciplines) are more likely to be married and have children than women academics. For men, marriage increases the probability of earning tenure (but not significantly) while the presence of young children significantly increases their probability of earning tenure. But, for women marriage and the presence of children significantly reduces their tenure prospects.

What's a woman to do?

III. The Policy Environment: Inefficiencies in the Evaluation of Candidates for Tenure

For labor markets to yield outcomes that benefit both employers and employees all parties must have accurate information regarding the quality of the labor being purchased/sold. College and university employers offering tenure (i.e., life-time contracts) to faculty seek some evidence that faculty who receive tenure will be productive over their career lifetimes (i.e., frequently 30+ years). Typically, senior colleagues within the institution seek to make an accurate forecast of an assistant professor's probable lifetime productivity by observing the faculty member's actual productivity during a probationary period that typically lasts five years (with the tenure decision made in the sixth year and a seventh year terminal contract offered to a professor who is denied tenure). The quality and quantity of a professor's teaching, research, and service during the probationary period thus serves as a "signal" to the academic institution of what to expect from the professor over the long-term.

But, sometimes the signals that tenure committees rely on in their decision making become contaminated and become inaccurate predictors of a probationary professor's probable lifetime productivity. The amount of "signal" relative to the amount

of "noise" in the probationary professor's work record is too low to permit tenure committees to make reliable predictions.

During the 1990s colleges and universities increasingly recognized that many other events, that affect both men and women, can be a source of noise including; adoption, serious illness or accident incurred by the professor of a member of his/her immediate family, death of a close family member, etc. Although professors are typically able to return to productive teaching, research, and service after such events, one or two such events, occurring during the five year probationary period can seriously distort a professor's work record.

What does a rational decision maker do in such circumstances – particularly when women are more likely than men to have "noisy" probationary work records because only women give birth and women are more likely to assume care giving responsibilities when a family member is ailing. Because there are significant costs, in time and money[2], to reentering the labor market to replace a professor denied tenure, and given the benefits of tenuring high quality faculty even though their probationary records don't reflect their true productivity, a rational decision maker seeks some economical means to increase the amount of signal – relative to the noise. Allowing probationary professors to stop the tenure clock for one, or more semesters, during their probationary period, is one mechanism to raise the signal to noise ratio.

IV. The History and Logic of the STC Policy Intervention

Stanford University became one of the first institutions to permit faculty to stop the tenure clock in 1971 when it began to allow female professors to stop the tenure clock up to two times during the probationary period for the birth of a child (Bunk, 1997). STC policies initially were available only to female professors who gave birth during their probationary periods in recognition of the fact that women face greater challenges when they try to start a family – challenges that tend to lower the signal to noise ratio in their work records.

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[2] Costs include hundreds of hours of time spent by secretaries, recruiting committee members, and college deans to assemble candidate application folders, evaluate the dozens (or hundreds) of job applications and interview candidates – as well as the monetary costs of sending recruiting committee members to professional conferences for first round job interviews and the monetary costs of bringing finalists for the job to campus for on site interviews.

In 1974 the American Association of University Professors (AAUP) added its support for the adoption of STC policies. The AAUP recommended that faculty who took a maternity leave and/or child-rearing leave also be allowed to stop the tenure clock without penalty. In 2001, the AAUP modified it's 1974 recommendations so that probationary professors would be allowed, upon request, to stop the clock whether or not a leave of absence is taken, to stop the clock for the adoption or birth of a child, to only permit parents who are primary or co-equal caregivers to stop the clock[3], and to limit extensions of the probationary period to a maximum of two years.

The list of qualifying reasons that provide options for faculty to stop the tenure clock expanded dramatically during the 1990s. Additional qualifying reasons now include; adoption, significant elder- or dependent-care responsibilities, disability or chronic illness of the professor, injured spouse or domestic partner who needs care, death of a parent, child, spouse, or domestic partner, catastrophic residential property loss[4], military service, legal concerns (e.g., settling an estate, processing a divorce, custody dispute, civil suit, or defense of a felony criminal charge), unavoidable delays in the completion of a research facility, natural disaster (e.g., flood or fire) that destroys research materials, unexpected bankruptcy of a publishing company after a book has been formally accepted for publication, and periods of purely administrative duties.[5]

Recognition was also given to the anti-discrimination mandates of Title VII of the 1964 Civil Rights Act, so that while STC policies in response to the short-term medical disabilities caused by childbirth can be legally limited to women faculty, STC policies for child*rearing*, or any other reason must be equally available to male and female faculty.[6]

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[3] Rhoads and Yoest (2004), discuss how a secondary caregiver, typically male, could utilize additional time on the tenure clock (or leave provided by childrearing leave policies) to produce more scholarship during the probationary period – thus raising their apparent productivity, relative to women who become mothers, thus further disadvantaging academic mothers. In order to prevent such gamesmanship from occurring, universities increasingly require faculty to sign an affidavit attesting that they are the primary (or co-equal) caregiver when an application for childrearing benefits is made.

[4] University in an area frequented by hurricanes.

[5] Schools surveyed include the University of Wisconsin, University of Michigan, Duke University, Claremont-McKenna College, Truman State University, University of Wyoming, New York University, Northwestern University, Stanford University, University of Chicago, and the University of Pennsylvania.

[6] Schafer v. Board of Public Education, 1990.

Some colleges and universities allow faculty to stop the clock whether or not they also take a leave of absence, and others don't. Policies also vary by the number of times the clock can be stopped.

There is also much variation in how the tenure dossier of a professor is evaluated when he or she has stopped the clock – although there shouldn't be.

Specifically, suppose Professor Smith is scheduled to be evaluated for tenure in her sixth year at Generic University, based on her work record during five years at the university. But, before she reaches her tenure decision she elects to stop the tenure clock for one year following an event that her university defines as a qualifying reason. Now, she will be evaluated for tenure in her seventh year. However, to have the desired effect of separating out the signal from the noise in Professor Smith's work output; her record of research, teaching, and service *must* be evaluated as if she had served only five years. Her tenure review committee should not expect an additional year's worth of output, for the additional year on the tenure clock. This would be lengthening the tenure clock – not *stopping* it. Additionally, in order to obtain the most reliable forecast of Professor Smith's likely lifetime productivity, her reviewers should not ignore any quality work that she performed during the year the clock was stopped.

A complete perversion of STC policies occurs when a participant in the tenure evaluation views a probationary professor's decision to stop the clock as a signal that the professor is *not* committed to meeting the demands of academic work. Anecdotal evidence (Schneider, 2000) indicates that the mere decision to stop the clock causes some reviewers to negatively evaluate some or all of the tenure candidate's work record.

Many faculty personnel policies are adopted at the college or university level, but implementation tends to be at the department level, with significant flexibility assumed by department chairs in exactly how policies will be applied (Wilson, 2002). With regard to STC policies, Bunk (1997) reports on a study conducted by the Association for Women in Science (AWIS) that found:

> "…decisions at the department level are critical to stopping the tenure clock without penalty. What's going to be your teaching level, who is going to cover

[your courses]. These are the real questions and what we found is that you really need a supportive department chair."

Another complication in trying to understand how STC policies are actually implemented is that a substantial number of institutions have unwritten, ad hoc personnel policies (Center for Education of Women, 2007; Thornton, 2003; Tillinghast-Towers Perrin, 1999). In these situations STC policies may be negotiated on a case by case basis, or follow some unwritten department "practice".

V. Institutional Level Assessment of the STC Policy Intervention

Every fall, since 1998, the Center for Business and Economic Research (CBER) at the University of Arkansas surveys approximately 350-400 chairs of departments of economics at U.S. and Canadian universities and colleges (and a handful of non-academic institutions) in order to collect data on the labor market for new Ph.D.s in economics.[7] Response rates generally are in the 50 percentile range. In addition to questions about salaries and hiring plans the CBER survey has included questions about STC policies. Between the 1999-2000 survey and the 2003-04 survey only two questions were asked – one regarding the availability of an STC option for women faculty who took maternity leave and another question asking if the STC policy was formal or informal. At my request, beginning in 2004-05, and every year since, the CBER has added five additional questions thus, there is now an opportunity to evaluate initial time trends regarding the availability, utilization and implementation of STC policies. One serious problem in analyzing the data is that the same institutions don't consistently answer the survey on an annual basis. Thus, it's difficult to know how much changes from one year to the next reflect real trends within higher education, or just a change in the sample of institutions that answered the survey. Trends over longer periods of time are likely to be more reliable. This section examines survey data collected during the last ten years.

Figure 2 shows the percentage of departments at doctoral universities and at a combination of Masters-granting institutions and Baccalaureate colleges that have STC

[7] Survey data is collected in the fall of year t and refers to departmental salaries, benefits, etc. for the academic year beginning in year t+1.

policies. In almost every year economics departments within doctoral universities are substantially more likely to have STC policies than are MA/BA granting institutions. However, in the former STC policy availability appears to decline over the second half of the sample period. With the exception of 2007-08 a similar pattern of reduced availability of STC policies appears for the MA/BA schools as well.

More doctoral universities may offer STC policies to their faculty because the option to stop the clock is likely to be more valuable at institutions where research output is of primary importance. An additional year (or more) on the tenure clock is not necessary to substantially raise the quality of teaching evaluations for a faculty member who is a good teacher and who is being judged largely on teaching ability. Yet, for a researcher an additional year (or more) on the clock may allow for a significant increase in publications.

Given the costs of raising a child to the age of maturity, the option to stop the tenure clock is unlikely to be such a substantial benefit that it would have any effects on faculty fertility. Figure 3 illustrates the maximum number of years faculty are permitted to stop the clock in their universities or colleges. In the case of MA/BA institutions there appears to be no discernable trend in the maximum number of years the clock can be stopped. In contrast, at doctoral universities the trend, until the 2008-09 survey was in the upward direction. In all years Ph.D.-granting economics departments typically allow more stoppages of the tenure clock than economics departments in MA/BA institutions.

Women and men who desire to stop the tenure clock are typically not in a strong bargaining position when negotiating. Having a formal policy eliminates the need to negotiate and also reduces the potential for discrimination suits. Figure 4 shows that between the 1999-2000 and 2008-09 academic years of the Ph.D. granting universities that have STC policies, over 90 percent or more have formal, written policies. The percentage of MA/BA colleges that have formal STC policies has increased from just over 50 percent at the end of the last decade to over 70 percent now. This figure peaked at over 90 percent in 2005-06. Because it is unlikely that departments that adopted formal policies rescinded these formal policies, the downturn illustrated during the last three years likely represents a change in the respondents to the survey.

Although STC policies have the potential to reduce the noise/signal ratio in the portfolio of a probationary faculty member, if policies are not used – because they are not well-advertised, or because they create a stigma for faculty who utilize them, then the policies will not have a positive effect on the promotion probabilities for faculty. In Mason, et. al.'s 2003 survey of 8705 ladder rank faculty employed in the University of California system, the authors found that over one-half of faculty were unaware of many of the system's family friendly policies. In the case of STC policies only 66 percent of faculty respondents knew of the policy's existence. Utilization rates were also low – with just 30 percent of eligible women faculty stopping the clock and 8 percent of men using the policy.

Figure 5 shows the percentages of women and men faculty at Ph.D.-granting economics departments who were eligible to stop the tenure clock (e.g., for birth or adoption) and who elected to do so. The general trend over the last five years for women faculty at doctoral universities has been upward, increasing from just over thirty percent to just over fifty percent (with a seeming outlier in 2005-06). Although a STC policy for *childbirth* need not include men, many do. Moreover, STC policies for adoption must be equally available to men and women. For men, there is often even more stigma in stopping the tenure clock – or taking parental leave. Not surprisingly, as shown in Figure 5 men's utilization of STC policies tends to be lower with eligible men in Ph.D.-granting economics departments about half as likely as women to utilize this policy option. And there seems to be a slight downward trend during the last two years – although this may reflect different respondents in different years of the survey.

As shown in figure 6 until 2008-09 women faculty employed by MA/BA colleges appeared to be steadily increasing their utilization of STC policies. Although only sixteen percent of eligible women utilized STC policies in 2004-05, almost 57 percent of eligible women utilized these policies in 2007-08. Eligible men at MA/BA schools were much less likely to use STC policies than eligible women.

Anecdotal evidence has appeared that in some cases tenure review committees were not properly evaluating probationary faculty who elected to stop the tenure clock. In contradiction to the purpose of the STC policies, some committee members were expecting an "extra year's worth of research" for each year that the tenure clock was

stopped. This is not stopping the tenure clock – it is lengthening the clock (a different policy) that does not allow for the same type of increase in the signal to noise ratio that a tenure clock stop permits.

Figure 7 illustrates data collected on what types of instructions are given to tenure review committees when a probationary professor elects to stop the clock. Results indicate that there are tenure committee members who are being instructed, incorrectly, to evaluate the tenure candidate based on the total number of years the person was on probation – as if the clock had never been stopped. In most years 25-50 percent of the time tenure committee members are given correct instructions on how to evaluate the performance of a candidate who stopped the tenure clock. And in the majority of departments, tenure review committee members just judge the dossiers of tenure track faculty without specific instruction on how to evaluate the performance of a probationary faculty member who stopped the clock. Thus, without polling faculty likely to serve on their tenure review committees, probationary faculty cannot be sure whether or not their records will be evaluated as if the tenure clock was stopped – or if they will be expected to have additional work (i.e., scholarship) over what is normally expected for each additional year that the clock was stopped.

This final result of the survey is the most remarkable. If tenure review committees are not given correct instructions regarding how to evaluate the record of a probationary professor, it doesn't matter if the tenure clock policies are formal or informal, if there are limits to the number of times that the policies can be used, or even what the utilization rates are. Improper implementation of the policy subverts its likely effectiveness and consequently the likely utilization of the policies.

VI. Individual Level Assessment of the STC Policy Intervention

In 2005 the email addresses of 2249 faculty members were gathered from the economics departments listed on 180 college or university web sites, at the rank of assistant professor, associate professor or full professor from the respondent institutions in the 2003 CBER Labor Market Survey. Faculty identified on the respective web sites as lecturers, instructors, visiting professors, or emeritus/emerita were excluded from the

study as they are unlikely to be eligible to utilize stop the tenure clock policies and/or unlikely to *currently* serve on the tenure committees that evaluate pre-tenure faculty.

The faculty surveyed worked at four-year colleges or universities, in the U.S. and Canada, during the 2004-2005 academic year. In January 2005, the 2249 faculty were asked to respond to a survey that was included in the text of an email – or alternatively to go to a Blackboard web site, where they could utilize an assigned username and password to answer the survey. The Blackboard survey prohibited multiple responses from the same individual. A total of 301 emails were returned as undeliverable, leaving a potential sample size of 1948 faculty.[8] A second email questionnaire was sent out on June 1, 2005. Useable responses were received by a total of 329 faculty for a response rate of 16.9%. The demographic characteristics of the survey respondents appear in Table 4.

Regarding family characteristics, the number of economics faculty who report being married or in a committed relationship substantially exceeds the average for college and university faculty as a whole (Jacobs and Winslow, 2004). A total of 58.4 percent of the survey respondents reported having or adopting a child *while employed in their current department*. Because some faculty change jobs during their academic careers, some were likely to have had or adopted children while employed by a different college or university. Survey respondents were not asked about children they had or adopted while employed at other schools to avoid difficulties in cross referencing responses to availability and utilization of STC policies in different departments.

One means of evaluating a policy intervention is to ask the targeted group if they perceive the intervention as helpful. Table 5 shows to what degree individual faculty believe that stopping the tenure clock can be valuable to a probationary professor. The term "valuable" was purposefully not defined in the survey because individual professors might perceive STC policies as being valuable in different ways. Survey data indicate that the vast majority of faculty believe that stop the tenure clock policies are valuable, however, perceptions vary regarding the value of the policy for male or female faculty experiencing qualifying events. The survey indicates that 92.7 percent rate STC policies

[8] Faculty listed on department web sites in the summer of 2004 may have changed jobs, and thus email addresses, during the six months it took to send the survey out.

as potentially of "great" or "modest" value for women who stop the clock. Only 83.3 percent rate STC policies as potentially of "great" or "modest" value for men.

The hypothesis that the percentage of respondents who think that STC policies are of great value for women equals the percentage of respondents who think that STC policies are of great value for men is rejected at the 1 percent level. Respondents were significantly more likely (at the 1 percent level) to think that STC policies would be of no value for male faculty, compared to the percentage of respondents who thought the policies would be of no value for female faculty.

A small percentage of faculty appear to believe there is a stigma associated with stopping the clock and that the stigma varies for male professors, relative to female professors, who elect to stop the clock. Specifically, 7.3 percent of respondents perceive that STC policies are potentially "somewhat harmful" or "quite harmful" for male faculty who elect to stop the clock. In contrast only 4.6 percent of respondents believe that women are likely to incur a penalty for stopping the clock.

The perceptions of women and men regarding the value of STC policies *for female faculty* are not significantly different at the 5 percent level – with one exception. Women respondents were far more likely than men to perceive that stopping the clock would be "somewhat" harmful (more stigmatizing) for a woman professor.

The perceptions of women and men regarding the positive (or neutral) value of STC policies for female professors are not significantly different at the 5 percent level. However, women were more likely than men to perceive that male professors who stopped the clock would be harmed by doing so – at the 1 percent level.

Of the respondents who had children, 82.9 percent perceive that STC policies are of great (or modest) value for male professors, while 91.7 percent assess the policies as having a great (or modest) value for women professors. Of the respondents who don't have children, 84 percent assess STC policies as being of great (or modest) value for male professors, while 94.2 percent believe that STC policies are of great (or modest) value for women. Professors without children generally assess STC policies more positively than professors with children, but the differences are not significant (at the 5 percent level).

One of the most important results of the survey is the level of ambiguity regarding how the dossiers of tenure candidates who stop the clock will be evaluated. Data in Table 6 indicates that only in 29.5 percent of tenure review committee members are given explicit instructions on how to properly factor a stopped clock into a tenure candidate's evaluation. Just over one-third of respondents (37.4%) don't know what instructions are given. Of the respondents who do not know what instructions are given to tenure committee members; the majority had tenure, were male, and didn't have children. If these faculty members don't sit on tenure review committees this may be a phenomenon of people not directly affected by a policy, not being aware of how it is implemented.

Of the respondents, 12.8 percent reported that no instructions are given to tenure review committee members and another 3.6 percent of respondents reported that tenure review committee members are instructed to use their own judgment. In such circumstances, a pre-tenure faculty member who comes up for tenure does not know, a priori, when the decision to stop the clock is made, whether or not additional work will be expected for additional time on the clock, whether he/she will be stigmatized for even stopping the clock, or whether the STC policy will be applied properly. While only 6.1 percent of respondents report that in their departments tenure review committee members are instructed to expect more work for more time on the clock, this does represent an incorrect application of the policy and a place where correction is needed.

Because so few colleges and universities are explicitly instructing tenure reviewers on the proper method for evaluating the work record of a probationary professor who stopped the tenure clock, STC policies are probably not as effective as they could be in accomplishing the goal of producing fairer evaluations of faculty members who experience a qualifying event during their probationary periods. Given that STC policies were predicted to disproportionately benefit female assistant professors (because of the coincidental timing of the tenure clock and the biological clock), the failure of STC policies to be properly implemented is likely to disproportionately affect female faculty.

Adoption and utilization rates for STC policies appear in Table 7. Of those respondents who had or adopted one or more children while in their current department,

37.5 percent reported that they had the option to stop the tenure clock. Women were more likely to report having the option to stop the clock (56.4 percent) than male faculty (29.9 percent). Over one-half (54.9 percent) of faculty members who were eligible to stop the clock while employed in their current department opted to do so. Women who had an STC option were substantially more likely to stop the clock (75 percent) than men who had an STC option (39.1 percent). Respondents who did elect to stop the clock were most likely to stop the clock just one time. A small number stopped the clock two times and no one reported stopping the clock three or more times. Explanations for only one or two stoppages most likely reflect low rates of fertility amongst full-time faculty. Drago (2003) reports that female faculty, on average, have .75 children, while male faculty have 1.5 children. Given that so many faculty members perceive STC policies to be of "great" or "modest" value to probationary professors, a question for further exploration is why aren't more faculty opting to stop the tenure clock?

VII. Conclusion

Because women bear more of the physical burden of childbearing, the birth of a child would be more likely to introduce noise into a woman professor's pre-tenure record. Stop the Tenure Clock policies are, in theory, one way to reduce the noise and paint a more accurate picture of a woman's professional abilities. Because of the different nature of the work of teaching in comparison to published research, being able to stop the tenure clock is likely to be more effective in helping a productive scholar prove her/his productivity, and less likely to be necessary to help an excellent teacher prove her/his ability in the classroom. Thus, STC policies are likely to be of more value to faculty at institutions that place more emphasis on research in their tenure decisions (i.e., doctoral universities).

Although the majority of women and men perceive STC policies to be valuable utilization rates remain low – for both men and women. The most important negative finding of this study is that only 25-50 percent of survey respondents, in any given year, report that tenure committees are given correct instructions on how to evaluate a tenure candidate who elected to stop the tenure clock. Although theoretically, a viable means to increase the ability of tenure track faculty to balance family formation and family needs

with the demands of the probationary period, if implemented incorrectly, or underutilized STC policies will have little ability to alleviate women's disproportionately low rates of promotion. Thus, professional academic associations (e.g., AAUP, American Association of University Women, Committee on the Status of Women in the Economics Profession, etc.), in concert with academic deans and department chairs, should consider devoting more resources to ensuring that senior faculty receive appropriate instructions for evaluating faculty who utilize an STC policy and that this information is also communicated to tenure-track faculty who may be considering a clock stoppage. .

Table 1

Percentage Distribution of Male and Female Faculty Across Ladder Ranks
(2-year and 4-year institutions with faculty ranks)

Academic Rank	Women: 1988-89	Men: 1988-89	Women: 2007-08	Men: 2007-08
Full Professor	4.5	32.0	8.2	23.5
Associate	7.3	21.2	10.8	15.9
Assistant	9.9	16.1	13.2	14.1

Source: *Academe*: AAUP Annual Faculty Salary Survey Report Table 14 (1989) and Survey Report Table 12 (2008).[9]

Table 2

Percentage Distribution of Male and Female Faculty Across Ladder Ranks in Ph.D.-Granting Universities: 2007-08

	AAUP: % Men	AAUP: % Women	CSWEP: % Men	CSWEP: %Women
Full Professor	79.6%	20.4%	91.9%	8.1%

Source: *Academe:* AAUP Annual Faculty Salary Survey Report Table 12 (2008) and CSWEP Annual Report (2007) Table 1.

Table 3

Percent of Tenure-Track Faculty with Tenure 12-14 Years After Completion of the Doctoral Degree

Tenured Professors	Women: Early Babies	Women: Late or No Babies	Men: Early Babies
Science	53%	65%	77%
Humanities or Social Science	58%	71%	78%

[9] Percentages of male and female faculty for a given academic year do sum to 100% when non-ladder rank faculty (i.e., instructors and lecturers) are included.

Table 4

Stop the Tenure Clock Policies: Demographic Characteristics of Respondents*

Characteristic	**Percentage**
Highest Degree	
= Masters or J.D.	0.6
= Ph.D.	99.4
Carnegie Classification of Current Employer	
Ph.D. Granting	69.9
Comprehensive College (mostly Masters & BA degrees)	16.7
Baccalaureate College	13.4
In a Full-Time Position	99.1
Tenure Status	
Tenured	80.5
Tenure-Track	17.9
Non-Tenurable	1.6
Academic Rank	
Assistant Professor	20.7
Associate Professor	22.5
Full Professor	56.8
Marital Status	
Single (never married)	7.9
Married	89.4
Divorced	2.7
Sex	
Female	30.7
Had a Child or Adopted While Working in Current Department	58.4

* Results may not sum to 100 percent due to rounding error.

Table 5
Perceived Value of Stopping the Tenure Clock
(Percentages may not sum to 100 due to rounding.)

	Potentially of Great Value	Potentially of Modest Value	Likely to be of no value	Potentially Somewhat Harmful	Potentially Very Harmful
Value of a STC Policy for Women Faculty					
All Respondents (N = 329)	**56.2****	36.5	**2.7**$^{++}$	4.3	0.3
Female Respondents (N = 101)	54.5	32.7	3.0	**8.9**$^{\#\#}$	1.0
Male Respondents (N = 228)	57.0	38.2	2.6	**2.2**$^{\#\#}$	0.0
Faculty with Children (N = 192)	53.7	38.0	3.7	4.2	0.5
Faculty without Children (N = 137)	59.9	34.3	1.5	4.4	0.0
Value of a STC Policy for Male Faculty					
All Respondents (N = 329)	**44.4****	38.9	**9.4**$^{++}$	5.8	1.5
Female Respondents (N = 101)	46.5	32.7	6.9	**9.9**$^{+}$	**4.0***
Male Respondents (N = 228)	43.4	41.7	10.5	**4.0**$^{+}$	**0.4***
Faculty with Children (N = 192)	43.8	39.1	8.8	6.2	2.1
Faculty without Children (N = 137)	45.3	38.7	10.2	5.1	0.7

** Percentages significantly different at the 1 percent level.
++ Percentages significantly different at the 1 percent level.
Percentages significantly different at the 1 percent level.
+ Percentages significantly different at the 5 percent level.
* Percentages significantly different at the 5 percent level.

Table 6
Instructions Given to Members of Tenure Review Committees

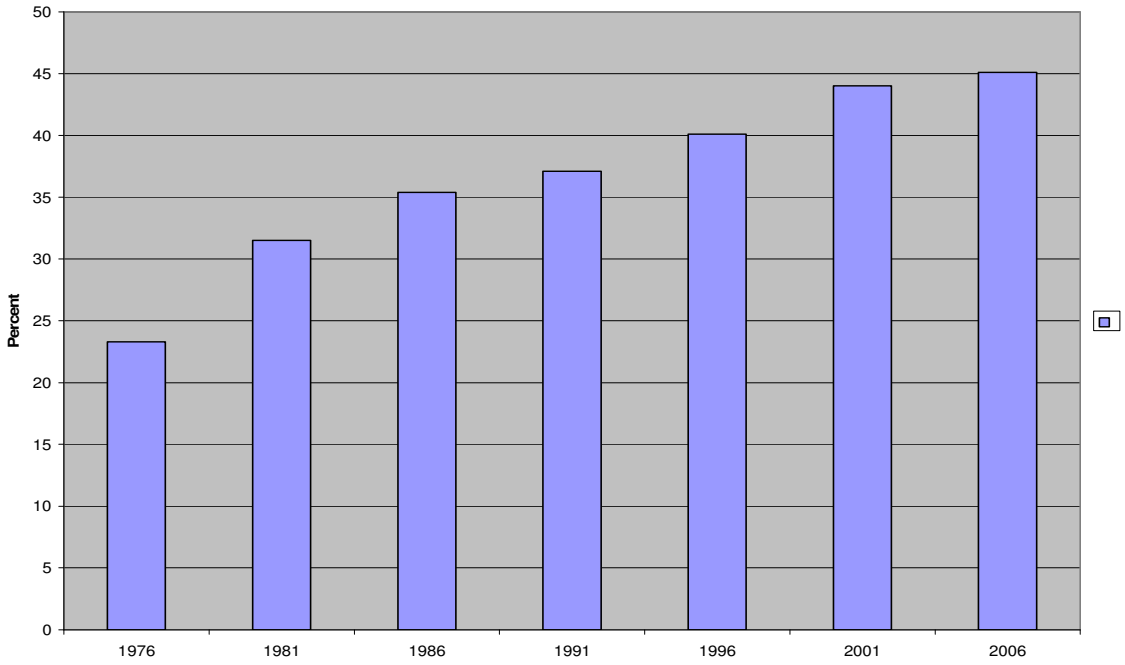
Response	Percent
Do not know what instructions are given	37.4
Not applicable (e.g., no policy, no one has used policy, etc.)	10.6
Instructed to evaluate candidate based on the actual length of the probationary period – minus the number of semesters the clock was stopped	29.5
Instructed to evaluate the candidate based on the actual length of the probationary period (i.e., to expect additional work for additional time on the tenure clock)	6.1
Are instructed to use their own judgment on how to evaluate a candidate who stops the tenure clock	3.6
No instructions are given	12.8

Table 7
Utilization of Stop the Tenure Clock Policies

	All Respondents	Male Respondents	Female Respondents
Percent of survey respondents who had or adopted 1 or more children while employed in their current department.	58.4% (N = 329)	60.1% (N = 228)	54.5% (N = 101)
Percent of respondents who had or adopted 1 or more children while employed in their current department – who also had the option to stop the tenure clock	37.5% (N = 192)	29.9% (N = 137)	56.4% (N = 55)
Total number of times respondents had the option to stop the tenure clock	82	46	36
Actual number of times tenure clock was stopped	45	18	27
Utilization Rate of respondents entitled to stop the tenure clock	54.9% (N = 82)	39.1% (N = 46)	75.0% (N = 36)

Figure 1

Percentage of all Doctorates Earned by Women: 1976-2006



Source: Survey of Earned Doctorates, Table A1 (2006)

Figure 2

Percentage of Economics Departments with a Stop the Tenure Clock Policy

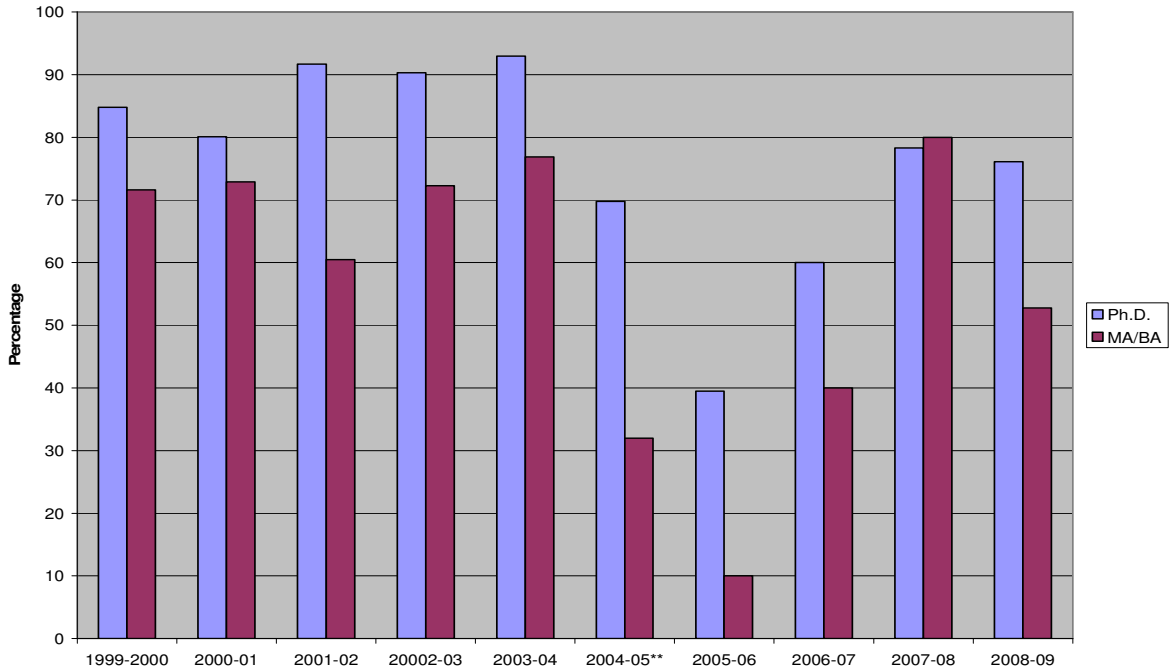


Figure 3
Maximum Number of Years the Tenure Clock May Be Stopped

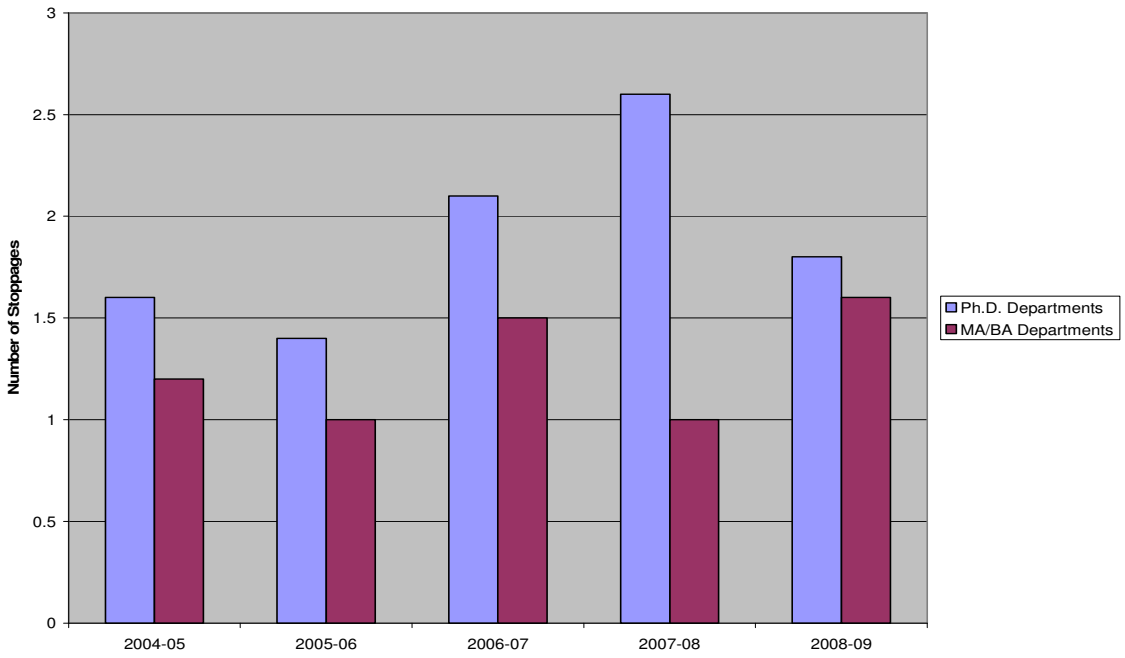


Figure 4
Percentage of Departments in which Stopping the Clock is a Formal Institutional Policy

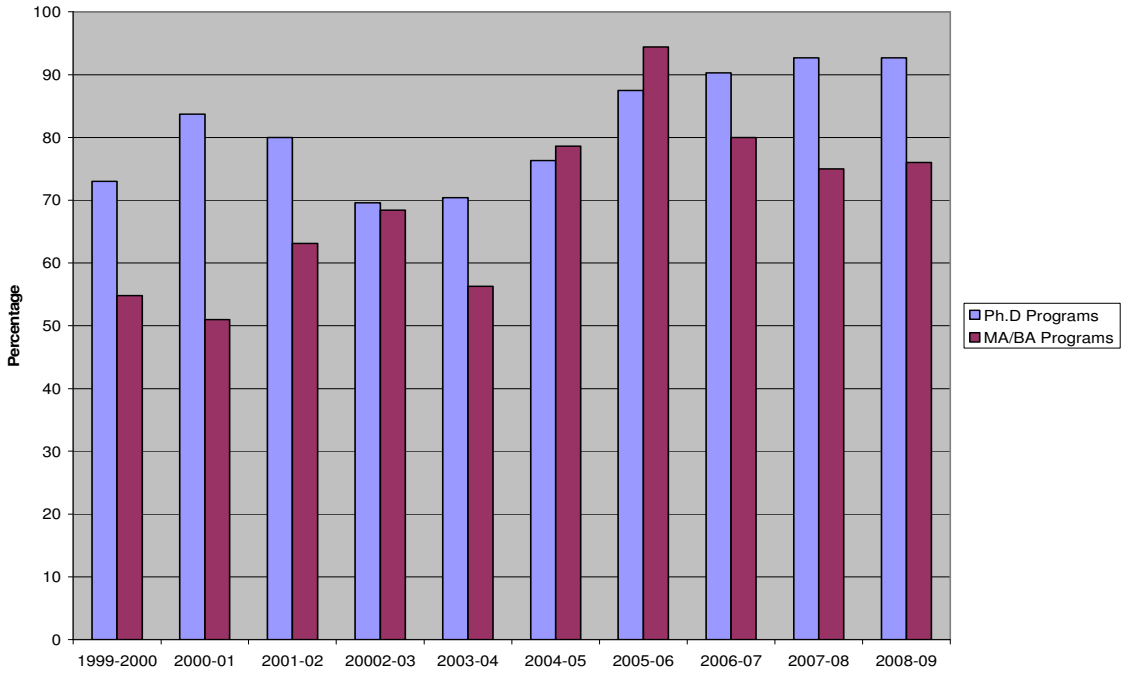


Figure 5

Percentage of Eligible Who Elected to Stop the Tenure Clock at Doctoral Universities

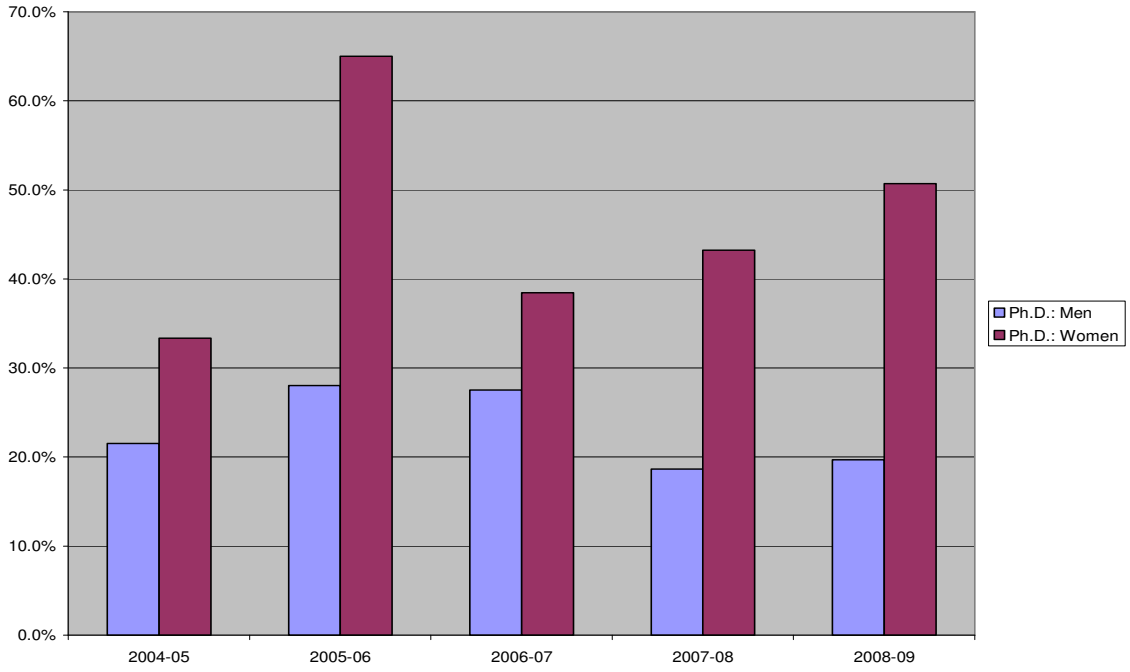


Figure 6

Percentage of Eligible Faculty Who Elected to Stop the Tenure Clock at Masters Universities and Baccalaureate Colleges

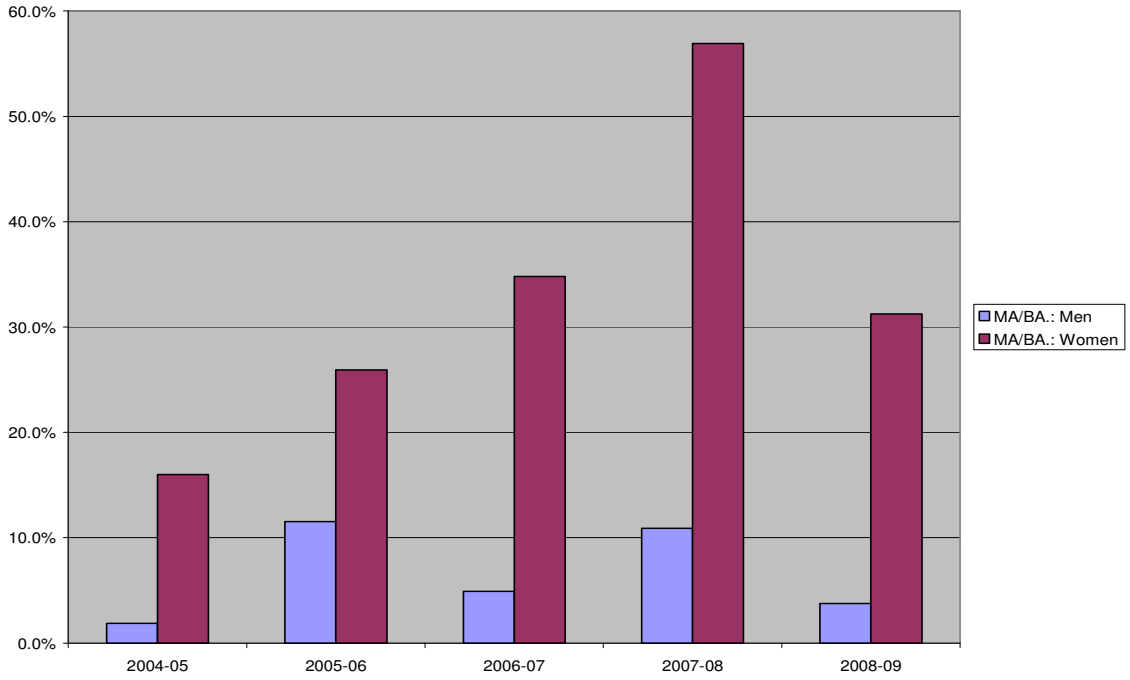
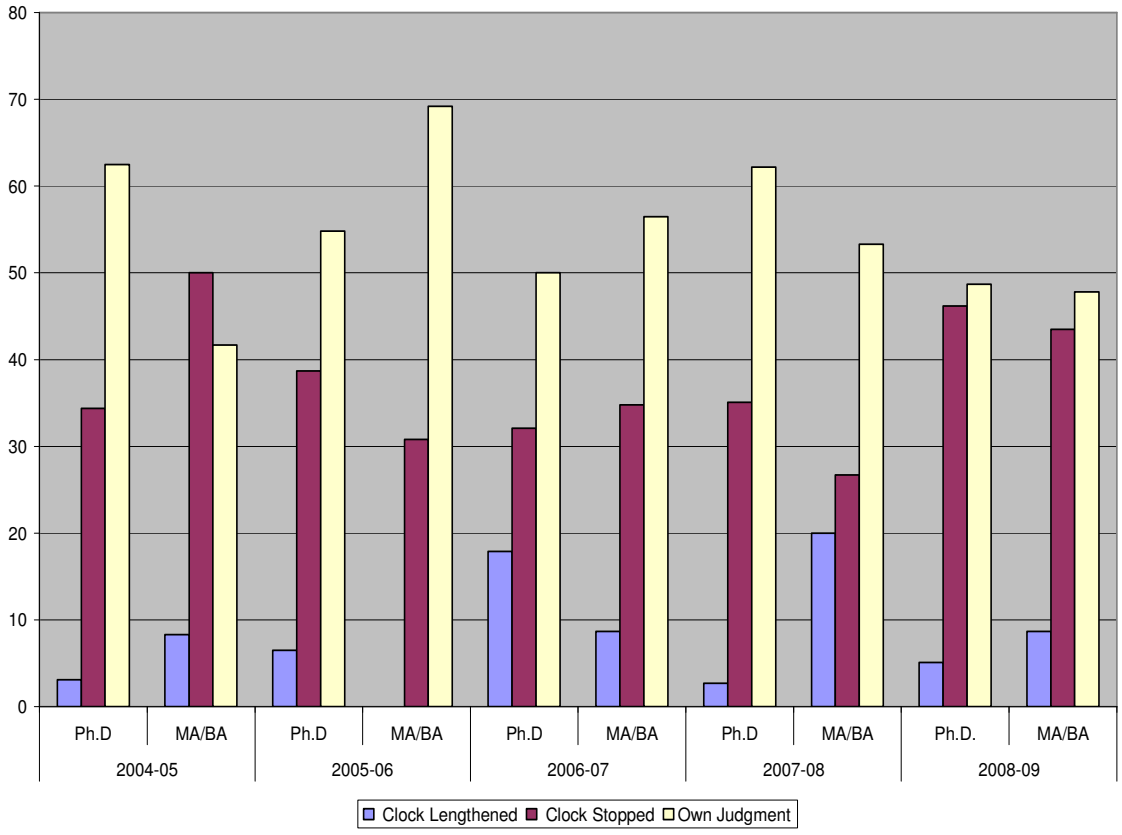


Figure 7

Policy Guidance Given to Tenure Committees When Faculty Opt to Stop the Clock



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