

IUSSP PANEL ON CONTRACEPTIVE TRANSITION THEORIES

A Reassessment of the Work of the Panel: Goals, Outputs

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This report contains a reassessment of the work of this panel – its goals, its planned outputs – based on the Expert Group Meeting held in October 2020 and subsequent discussion among members of the panel.

I. Introduction

I.A. Purpose of the panel

A statement of the original charge to the panel is as follows.

The empirical fact that motivates this endeavor is the substantial increase in the use of contraception, especially “modern” methods, in the decades since 1960 in low- and middle-income countries. This represents a revolutionary change in reproductive behavior, and as such, begs for description and explanation. The descriptive challenge is to describe accurately the process of contraceptive transition as it has been observed to date, obtaining a clear portrait of commonalities and differences across societies. The explanatory challenge is to identify underlying causal forces, again balancing the extraction of commonalities with recognition of differences. Indeed the latter is itself a principal goal: the amount of change in contraception and pace of change are known to vary across societies – what accounts for this? More to the point, some societies to date have shown limited change in contraception, notably many countries in sub-Saharan Africa – how to explain this?

The overarching goal is to produce a relatively unified explanatory framework that incorporates insights from the multiple scientific disciplines that have grappled with contraception as a phenomenon. Further, the explanatory framework should be firmly grounded in existing empirical evidence.

This report provides a fuller specification of this initial statement of purpose, as this has emerged through the discussions of the panel to date.

A definitional note: In the charge to the panel and throughout this report, “modern method” is a key term. There is some variation, although for practical purposes, it is slight, among scholars and organizations in which methods are classified as “modern.” In reviewing existing evidence, we must necessarily defer to whatever definitions were employed. Generally, “modern” encompasses medical technologies or medically-informed practices that are adopted to avoid conception when sexually active.

I.B. Expert Group Meeting (October 2020)

The meeting consisted of three sessions, ranging from 90 to 150 minutes each, held on successive Fridays in October 2020. This meeting was designed to be a mechanism for informing the panel of the full range of contending theoretical perspectives on determinants of contraceptive change. This, in turn, provides a basis for defining topics for the longer review articles to be commissioned in 2021.

As anticipated, the meeting raised as many (or more) questions as it answered. This fact is reflected throughout this report – we identify many issues that have not been tidily resolved.

The contributors to the Expert Group Meeting and their topics are listed in Annex 1. In this report, points drawn directly from contributions in the Expert Group Meeting will be indicated by **(name)**, e.g. **(Kantorová)**.

I.C. Objectives of this report

In this report we:

- Summarize the proceedings of the Expert Group Meeting
- Identify key takeaways from this meeting
- Revise the planned work of the panel

II. Defining and characterizing contraceptive transition

II.A. What is a “contraceptive transition”?

Our definition of contraceptive transition is simple and straightforward: the historical process of contraceptive prevalence increasing from low levels (use of modern methods below 10%) to high levels (use of modern methods above 60%). With the focus on modern methods, the “startpoint” universally will be less than 10%. The “endpoint” is another matter: we specify 60% as a minimal endpoint, recognizing that this value can vary considerably, conditional on fertility desires (two children on average versus less) and on the reliance for birth control on non-modern methods and induced abortion. Certainly, experience to date demonstrates that the endpoint can exceed 80%.

Note that this definition is specified at the aggregate-level. The phenomenon this panel is tackling is population-level change.

This simple and straightforward definition is inclusive of the existing research literature, whereas more elaborate and restrictive definitions run the risk of excluding literature that will prove to be informative. That said, the panel is mindful of the emerging demand for multidimensional definitions of contraceptive regimes that acknowledge the significance of facets other than prevalence *per se*. These other facets include contraceptive autonomy and contraceptive equity. In Section V of this report we review these and other considerations that have the effect of enlarging the definition of contraceptive transition.

II.B. The parameters of contraceptive change

There are, first of all, the notions of “startpoint” and “endpoint.” (**Castro-Martin**) Both are problematic. In the case of startpoint, there is dispute among scholars about the prevalence of deliberate efforts to regulate childbearing (quantity and timing) in high-fertility societies. There are even more ambiguities about endpoint. As noted in Section II.A., if individuals wish to have no children or restrict their childbearing to just a few children (two or fewer), this can be achieved entirely via use of modern methods, via a mix of modern and traditional methods (e.g. periodic abstinence or withdrawal), or via a mix of contraception and induced abortion.

For the purposes of formal modeling of contraceptive change, it is useful to distinguish *level*, *pace*, and *timing*. (**Kantorová**) These correspond directly with parameters in the logistic growth curve:

$$P_{c,t}^* = \frac{\tilde{P}_c}{1 + \exp(-\omega_c(t - \Omega_c))}$$

Pace is the change per annum at the moment of fastest increase, and *timing* is the historical date at which this occurs. *Asymptote* (or *level*) is the eventual contraceptive prevalence at the end of the contraceptive transition.

This model is a useful tool for a parsimonious summary of observed contraceptive transitions. But there are important theoretical questions about its adequacy in representing historical experience to date. Of particular concern are departures from this logistic S-curve. Stalls in contraceptive change are well documented, and even a few instances of reversals; explanations for these eccentric historical trajectories are needed.

Method mix is a further parameter that can be measured as a categorical outcome. At the Expert Group Meeting, **Kantorová** shared various graphical displays of the breakdown of contraceptive use by method and the characterization of regimes as relatively homogeneous versus relatively heterogeneous in method mix. What determines method

mix – system-level factors versus individual taste – is an explanatory task. Clouding the assessment of method mix is the under-reporting of non-medical methods (e.g. periodic abstinence) and the possibility of multiple-method practices (e.g. condom and withdrawal).

II.C. Induced abortion – how does it fit in?

The charge to this panel is to consider theories for change in contraception, not fertility regulation more generally. The latter would encompass both induced abortion and certain restrictions on sexual activity. From an empirical standpoint, there is little question that induced abortion has made a major contribution to fertility decline in many countries. It is a major mechanism for fertility regulation in many low-fertility societies. How to take account of induced abortion in the work of this panel?

This is a difficult issue, and the panel has not settled on a simple resolution. Among the points that have been raised:

- Deliberate trade-off between contraception and induced abortion – at the societal level, and perhaps even at the individual level – is a distinct possibility that theories of contraceptive transition must recognize.
- The legality of induced abortion is a fundamental factor. In all likelihood, legal codes have been far more important with respect to induced abortion than contraception.
- Technology is another fundamental factor, most notably the availability of medication abortion (a “transition within a transition”). Of course, the history of contraception also includes notable technological breakthroughs.

II.E. Overarching challenges in formulating an explanatory framework

The panel appreciates that explanation is a major step beyond description, although explanatory efforts should be grounded in sound and thorough empirical description.

Further, we can ask how frameworks for contraceptive transition and frameworks for fertility decline should be linked. (**Karra**) Does the latter subsume the former? What, if anything, distinguishes explanatory frameworks for contraceptive transition from explanatory frameworks for fertility transition?

The challenges in constructing an explanatory framework for contraceptive transitions are not to be under-estimated. (**Castro-Martin**) Ideally, we will:

- Integrate historical, current, and foreseen trends and patterns; explain differentials across and within societies; current high-income countries should not be excluded.
- Recognize the variation in context at the onset of contraceptive transitions. Certainly, the context was very different in countries that are currently high-income and low-fertility compared to countries where the contraceptive transition did not get seriously underway until after 1960. Even among contemporary low- and middle-income countries, there is important variation in terms of mass

communication, available contraceptive technology, and the policy/program environment to single out a few key contextual factors.

- Account for macro-level, meso-level, and individual-level driving factors and influencing factors. Does one privilege macro-level theory? Or, alternatively, begin with micro-level models for fertility and build-up? (**Karra**)
- Acknowledge that contraceptive decisions and fertility preferences are “moving targets” influenced by historical period, birth cohort, and the life-course.

III. Theoretical Perspectives: Supply – Demand Frameworks

In recent decades, the predominant approach to understanding variation in contraception – across both time and space – has been the “supply-demand framework.” In this framework’s most basic formulation, “supply” refers to the availability of contraception (geographic access, financial cost, range of methods, quality of care, varying levels of contraceptive security, etc.), and “demand” refers to individuals’ desire to avoid pregnancy via contraception. This distinction was echoed throughout the October 2020 expert meeting, touched on in one form or another by almost every participant. Two contributions more explicitly focused on this distinction: **Zulu**’s contribution on family planning programs and the role of new technology, and **Bongaarts**’ contribution on fertility preferences.

We review both components of this framework in turn.

III.A. Supply

Zulu provided an overview of the contribution of enhanced contraceptive access and services to the adoption of contraception. His overview emphasized the present situation in sub-Saharan Africa but was not limited to this setting. As Zulu summarized, there is abundant evidence that improved supply can accelerate the adoption of contraception. A further piece of evidence was submitted by **Bongaarts** at the October 2020 meeting: his analysis of DHS data for a set of sub-Saharan African countries indicates that more than one-half of observed increases in contraception can be attributed to family planning program effort.

A variety of conditionalities qualify this sweeping conclusion. To begin with, the obstacles to adopting and using contraception are hardly limited to the availability of contraception; the “costs of contraception” (Easterlin 1975) include many cultural, social, and psychological constraints. Secondly, in its basic form the framework posits independent effects of supply and demand. But there is a strong theoretical reason for hypothesizing that supply influences demand; in particular, as contraception becomes more available, this itself has the effect of increasing demand. (**Zulu, Moreau**)

Supply is variegated in ways that theory should attend to. The character of national programs differs in part as a function of the concerns that motivate the establishment of a publicly-funded family planning program: concerns about population growth versus concerns about women's rights and health versus concerns about the make-up of the population (e.g. according to ethnicity or region). (**Basu**) In this vein, we can also ask what circumstances determine whether the impact on the prevalence of expanding contraceptive availability is large or small? Support by national political leadership may be key. (**Bongaarts**) Historical timing matters. Also relevant are programmatic aspects beyond the provision of family planning *per se*, and the extent to which the design of the program matches well with the felt contraceptive needs of the population (**Karra**). All this makes the point that a strong supply-demand theoretical framework will include theory about what conditions the impact of improvements in the supply of contraceptive methods.

An important issue that falls under the theme of "supply" is the role of contraceptive technology. The decades since 1960 have witnessed the release of a succession of new female contraceptive methods – the oral contraceptive, the IUD, injectables, implants, emergency contraception, etc. Unquestionably this has been a historical period in which contraceptive technology *per se* features prominently in the historical narrative, a process of the medicalization of contraception. But the extent to which availability of new contraceptive methods, and a wider array of methods, have accelerated contraceptive transition is subject to some dispute. (**Moreau**) Certainly, the wider array of methods increases the possibility that individuals will be able to choose methods that match their needs (e.g. short-term vs. long-term protection, health side effects, convenience). (**Zulu**). Methods vary in the extent to which they allow for women's agency, and in the aggregate, this too may have some bearing on the pace of contraceptive transition. It is also the case that the development of male modern methods has proceeded slowly – to date only vasectomy and condom. A final point noted in the discussion during the October meeting was the empirical fact that in some populations the upper strata (urban, educated) appear to be dropping modern methods and reverting to traditional methods. In other populations, traditional methods have always constituted a non-trivial fraction of contraceptive prevalence. (**Zulu**) This last point brings into sharper focus the charge to this panel of developing an explanatory framework for an increase in the use of modern methods. It also underscores the need to specify method mix as a specific aspect of contraceptive transition to be explained.

III.B. Demand

The first generations of scholarship (1930s – 1960s) on fertility transition posited a decline in desired fertility as the fundamental driving force. Explicitly or implicitly, this theoretical stance applied to contraceptive transition. Among the underlying factors that were thought to change desired fertility were: declines in infant/child mortality, changes in the economy that altered cost-benefit calculations about the value of children, changes in the economy that altered the opportunity cost for women of childbearing and childrearing, the

emergence of mechanisms for old-age security other than dependence on children, and changes in life-style aspirations. (**Karra, Jejeebhoy & Sathar**).

In the classic demand-supply framework in past scholarship, in the aggregate, the demand for contraception is assumed to correspond closely to the desired number of children. In recent decades, scholars have developed a more complex understanding of fertility demand. (**Bongaarts, Castro-Martin**). To begin with, the distinction between the desire to space and the desire to stop is now firmly established. Perhaps further elaboration is called for, taking into account the motivation to delay childbearing, age (e.g. social norms about optimal parenting ages, individual perceptions of being too young or too old) and partnership situations (e.g. new partnership leading to a desire for additional children). These examples make a larger point that fertility desires vary systematically by stage of the reproductive life course (as indexed by age and/or number of children and/or partnership situations), and contraceptive needs will vary accordingly. To construct an explanatory framework for contraceptive transition, the key point is that the motivation for the uptake of contraception may be one or another of these types of desires, and the relative weight they carry may vary across populations, i.e. the paths to higher contraceptive prevalence differs. (**Castro-Martin**)

Scholars have also recognized the nuance in fertility desires, and increasingly data collection has been sensitive to this. (**Castro-Martin**) Fertility desires may be characterized by considerable ambivalence and uncertainty. They may also be highly contingent – i.e. dependent on circumstances (macro-level and micro-level) that themselves are unstable. (Contingency can also be regarded as flexibility.) Ambivalence, uncertainty, contingency – collectively, these yield fertility desires that may be highly fluid over time. What is described here are features of fertility desires that micro-level investigations have uncovered, in particular longitudinal investigations. How can contraceptive transition theory accommodate these micro-level empirical results? This question has not yet been adequately addressed.

Another important empirical result that a supply-demand framework must confront is the fact that a large portion of the contraceptive change in recent decades has not been a response to changing fertility desires, but rather represented a more complete implementation of existing desires. In his contribution to the October meeting, **Bongaarts** provided another numerical illustration of this fact. (His calculations indicate that implementation of demand has been more than twice as important as changes in demand in explaining increases in contraceptive prevalence in sub-Saharan Africa from the mid-1990s to the present.) That implementation of demand has been dominant is not, in itself, at odds with the conventional supply-demand framework. But we suggest that, to this point, the theory for implementation of demand has been rather crude and undeveloped. Given its empirical prominence, implementation of demand would seem to deserve more rigorous treatment in contraceptive transition theory.

IV. Broader Theoretical Perspectives

IV.A. Economic theory

Explanatory frameworks that emphasize the determining force of changes in the economy have been central in scholarly discourse about contraceptive transition. The key causal forces in economic theory are: child survival; income; human capital demand (e.g. schooling requirements of modern-sector occupations); sources of old-age support. (Karra). While the economic literature contains macro-level theory of contraceptive change, the dominant approach since Becker's theoretical work of the 1960s and 1970s has been micro-level theory in which "quantity-quality" trade-off is a central concept. Macro-level formulations are built up from the micro-level theory. There is a large empirical literature, both macro-level and micro-level, that assesses the relative size of each of the factors listed above. It is fair to say that there have been few significant modifications or extensions of the economic theory of contraceptive change since the 1970s (with the possible exception of diffusionist perspectives – see IV.E. below).

In recent decades, economists have devoted more effort to investigating the consequences of contraceptive transition. There have been both micro-level investigations, and highly influential macro-level research, including studies that assess the "demographic dividend" (i.e. economic gains from the changes in age structure that accompany fertility decline, itself mainly due to contraceptive transition). (Karra) The research literature – empirical studies, simulation exercises – suggests that these gains can be substantial. This, in turn, has become a leading argument for national governments to invest in deliberate efforts to reduce fertility. (Zulu).

IV.B. Gender systems

The argument that reproductive change, including contraceptive transition, is determined in part by gender systems was posited in the 1980s. (Jejeebhoy & Sathar) Gender systems are a function of other major societal institutions, most notably kinship systems and religious systems and the nature of the economy. The fundamental concept of concern is "women's agency." Women's agency is hypothesized to affect contraception through multiple channels: in terms of the supply-demand framework, effects on both demand and implementation of demand are plausible.

Since the 1980s, the argument that gender systems are a strong determinant of various reproductive outcomes has been the subject of numerous empirical investigations. (Jejeebhoy & Sathar) At this time there is a growing consensus that gender relations more broadly, and women's agency more specifically, are central elements in inclusive and balanced explanations for contraceptive transitions. Women's agency is multi-dimensional and context-specific, and it evolves historically; measurement efforts must accommodate each of these features. While measurement has improved and data are being collected more widely (including in the DHS), to this point the solid empirical evidence is limited to a

handful of widely available indicators and differs by context. Two conclusions can be derived from the existing evidence: (i) effects of women's agency on contraception are context-specific; (ii) there is variability in the importance of different facets of women's agency in determining contraceptive practice.

Arguably the emergence of “contraceptive autonomy” as a valued component of contraceptive transition (see Section V of this report) can be attributed in part to the preceding attention to women's agency as a determinant of contraceptive transition and the interest in focusing on reproductive changes based on women's choice. “Contraceptive autonomy” increasingly is regarded as a desirable and high priority outcome on its own. If increase in contraceptive autonomy proves to be an empirical regularity, this is one further dividend from contraceptive transition (**Jejeebhoy & Sathar**)

IV.C. Health transition and contraceptive transition

The many inter-relations between health transition and contraceptive transition have been thoroughly investigated, at both the macro-level and micro-level. (**Moreau**) Without a doubt, there is mutual causality. While not directly germane to the work of this panel, contraception's multiple effects on health should be noted: very directly, due to health effects of contraceptive methods; less directly, by affecting maternal and child health (including maternal and child mortality); and even less directly, by affecting population age structures. Via these various channels (reviewed by **Moreau**), contraceptive practice stands as one determinant of epidemiological transition.

Causality in the other direction also obtains. The decline in infant/child mortality as a dominant determinant of contraceptive transition was already noted above. One can also posit more general and diffuse effects of health transition on contraceptive transition. Part-and-parcel of health transition is a change in mentality and practice with respect to the human body. The notion of “self-efficacy” is stressed in some of the epidemiological and medical anthropology literature. “Medicalization” is a closely related crucial concept. Adoption of modern contraceptive methods can be viewed as a key component of the medicalization of human reproduction. Change in birth delivery practices is another key component. One can posit that successful medicalization in other domains of health – e.g. vaccination campaigns that sharply reduce infectious disease – facilitates the adoption of modern contraceptive methods. Existing theory largely ignores these possible linkages between health transition and contraceptive transition; this is an area calling for theoretical development.

IV.D. Governance and the state

The prominence of family planning programs – provision of family planning services and supplies, either stand-alone or embedded in health systems – in discourse on contraceptive transitions brings to the fore the role of governments and the state, at least for modern

methods in contemporary settings. (**Zulu**) There are multiple issues here: the degree of policy commitment to the provision of contraception; specific features of the design of family planning services; how well these services function.

The policy commitment and the design of services is determined in part by “national ideology” (**Basu**). National governments differ in their motivation for investing in family planning services – for example, reducing population growth rates versus primacy on reproductive rights and women’s health. This, in turn, can affect the mix of methods that are provided – where reducing population growth rates is the main motivation, highly effective and terminal methods may be featured. At an extreme, state commitment to reducing population growth rates – in the population as a whole, or in certain sub-groups (e.g. ethnic sub-groups) – has in certain notable instances led to coercive approaches.

One might posit that the effectiveness of the nation-state is an important conditioning factor in determining contraceptive transition in modern times. Not only does this bear on family planning services, but it also bears on other institutions that indirectly affect contraceptive transition: health services, educational systems, transportation networks, legal structures. “Political demography” that would examine this hypothesis is relatively undeveloped.

IV.E. Cultural systems and social diffusion

Cultural and diffusionist theories feature what can be termed “ideational” dimensions – knowledge, beliefs, values, norms, symbols.

“Culture” is cited frequently in the literature on contraceptive transition. For example, sub-national spatial variation in contraception as well as differentials according to ethnicity are frequently attributed to cultural factors. But scholars are typically imprecise about which features of the prevalent cultural systems are decisive, and rigorous empirical tests are even more rare. The perception that contraception violates religion is well-recognized as a barrier to contraceptive practice in some populations (past and present). Less direct effects are posited for religious prescriptions concerning the roles of women and children.

In efforts to explain the parameters of contraceptive transition, cultural systems are often posited as moderators – i.e., they condition the strength of the effect of other driving forces. In this view, some settings are more conducive to widespread adoption of contraception than others because the cultural system is more receptive, which accounts in part for more rapid transition in these settings. An alternative, more ambitious theoretical stance is that cultural systems have direct effects on contraception. If this stance is adopted, then to exert a causal impact on contraceptive transition, the cultural systems itself must undergo change.

This leads naturally to diffusionist theory. (**Basu**) Social diffusion is one mechanism for cultural change. At issue may be change in large cultural systems, such as religious systems (e.g. growing secularization, or displacement of established religious institutions by

fundamentalist strains). Or in the case of contraception, one can focus on specific knowledge and beliefs: about contraceptive techniques, about the consequences of practicing contraception, about the costs and benefits of large families, and so forth. (**Bongaarts**)

In many societies, the spatial-temporal pattern of contraceptive transition is suggestive of social diffusion: certain sub-groups (often higher socioeconomic status) are forerunners, with other sub-groups following with temporal lag. (**Basu**) The S-shaped logistic growth curve is consistent with social diffusion dynamics. (**Kantorová**) Whether it makes sense to treat social diffusion as an underlying causal force, or instead as a conditioning factor (“moderator”), is an important question to address when constructing a unified explanatory framework for contraceptive transition.

IV.F. Societal trauma: disruptions, shocks

Societal traumas take various forms: disease, famine, natural disasters (e.g. earthquake), environmental degradation (e.g. excessive pollution), civil conflict, political upheaval, and setbacks (or booms) in economic markets. There is abundant empirical evidence about how these sorts of societal traumas affect vital rates (mortality, marriage, fertility), and even a few studies of effects on contraception; the latter includes the specific but very important phenomenon of sexually transmitted infection (e.g. HIV). However, we are not aware of explanatory frameworks for contraceptive transition that have dealt rigorously with societal trauma as a possible causal factor. That such disruptions/shocks have effects that are not merely transient, instead persist, altering the timing of onset of contraceptive transition or, more plausibly, the pace of transition – this is a possibility that merits taking seriously in theory construction and empirical research.

The work of this panel is occurring during the global shutdown due to the COVID-19 pandemic, and hence reflecting on the impact on contraception of infectious disease pandemics is unavoidable. Empirical evidence of the impact of COVID-19 on reproductive health, including contraception, is accumulating. We can expect reasonable clarity about the short-term impact before concluding this panel’s work in 2022. In the October meeting, **Guiella** provided a review of some of the emerging evidence, focusing on consequences for fertility and contraception in sub-Saharan Africa. It is clear that the shutdown has led to loss of income, substantial in some segments of the population (e.g. rural women). Even so, the limited evidence suggests little change in fertility desires, to this point at least. We await quantification of the full impact on contraceptive availability – clinic closures, inability to travel to clinics, breakdown of supply chains. The effects are assumed to be almost entirely negative with respect to women’s/couple’s capacity to maintain effective contraceptive practice. But deliberate shifts to more effective and long-acting methods is an offsetting possibility (**Moreau**). And there may be changes in sexual activity that either increase or reduce the need for contraceptive protection.

The takeaway is that a unified explanatory framework for contraceptive transition should give attention to societal trauma, in its various forms, as a causal force. Indeed, while an infectious disease pandemic currently preoccupies our attention, it may be that civil conflicts and economic shocks have been more consequential historically. And looking forward, the expected climate change during the 21st century may have multiple repercussions (disruption of agricultural systems, forced relocations, etc.) that bear on contraceptive transitions.

V. Contraceptive transition as a multi-dimensional phenomenon

In the first few decades of research on contemporary contraceptive transitions, the main outcome of interest was prevalence of use. Clearly, this is the core behavioral outcome, and we adopt it in our definition of “contraceptive transition”. During the past two decades, however, there has been increasing attention to facets of contraceptive behavior in addition to contraceptive prevalence *per se*. Bringing these facets under consideration has the effect of elaborating, or one could say refining, the concept of contraceptive transition.

Four additional considerations have become prominent in current discourse about contraception as one component of reproductive health:

- (i) *Conditioning on fertility preferences.* The sub-group of interest can be defined as individuals who wish to avoid pregnancy (for the time being or indefinitely). The latter is labeled “demand for contraception” – admittedly a misnomer, because the desire to avoid pregnancy is not tantamount to demand for contraception. The proportion using among individuals who wish to avoid or delay pregnancy is commonly labeled “satisfied demand.” This is a more narrowly defined measure of contraceptive prevalence.
- (ii) *Contraceptive equity.* At issue is whether criteria (i) is achieved to the same extent in all sub-groups in a population (socioeconomic, age, gender, marital status, sexual orientation, and so forth). Even where overall prevalence is high, some sub-groups may be distinctly disadvantaged.
- (iii) *Match with contraceptive preferences/needs.* The method that individuals are using may or may not match their particular preferences and needs. These include matters such as how long they wish to avoid pregnancy (briefly, multiple years, indefinitely), stage of life-course, health considerations, convenience, and so forth. Contraceptive prevalence as conventionally defined may include a high fraction of users whose method matches poorly with their preferences/needs.
- (iv) *Autonomy over contraceptive use decisions.* Extending point (i) is that autonomy over contraceptive use, itself subsumed within the broader concept of reproductive autonomy, means that people have control over their decisions to use contraception or not and that they are satisfied with their choices. Contraceptive practice should be the behavior that enables individuals freely and easily to achieve their sexual and

reproductive goals, as well as other related goals (social, physical and mental health, economic) that can be constrained by their sexual and reproductive situation and well-being. This concept prompted extended discussion during the October 2020 Expert Group Meeting. Among the points that emerged in this discussion:

- The “notion of contraceptive autonomy” directs us to women’s agency more generally, at least in the South Asian setting that was the focus of the presentation. **(Jejeebhoy & Sathar)** Agency is multidimensional and has context-specific aspects. The most commonly measured dimensions (e.g. in DHS surveys) are decision-making power and freedom of mobility; also crucial are control over financial resources and freedom from spousal control and violence.
- In some settings, contraceptive autonomy may well be closely linked with stage of reproductive career, as marked by age, union status, and childbearing status. **(Castro-Martin)**
- That an increase in contraceptive autonomy will accompany (i) decline in fertility and/or (ii) changes in women’s social attributes and economic roles (schooling, labor force participation) should not be assumed. **(Jejeebhoy & Sathar)**
- Similarly, whether increased access to contraceptive methods and services (e.g. via family planning programs) increases women’s contraceptive autonomy is an empirical question; no one-to-one relationship can be assumed given the multiple social factors that moderate the relationship between them. Moreover, family planning programs can be constraining (e.g. about method choice) and even coercive.
- The two goals of increasing women’s contraceptive autonomy and male involvement in family planning are sometimes placed in opposition to each other? **(Karra)** But if women’s contraceptive autonomy is considered primary – it is the woman’s health and life choices above all that are at stake – then supportive male involvement can enhance women’s contraceptive autonomy **(Jejeebhoy & Sathar)**.
- A priority on contraceptive autonomy, and more generally reproductive autonomy, also directs attention to the choice to have a child (not only prevent pregnancy). **(Moreau)** Unrealized fertility is another form of mismatch between reproductive aspirations and outcomes. This underscores the centrality of the principle that reproductive choice is a right and a goal.

Recognition of these additional criteria for assessing contraceptive regimes raises the question: what is meant by the notion “perfect contracepting society”? Certainly, the incidence of unintended pregnancy is one indicator – this corresponds with criteria (i) above and captures most of the demographic impact of contraception. Beyond this, criteria (ii) – (iv) above can be applied in judging any contraceptive regime. This yields a multi-dimensional evaluation of contraceptive regimes.

There is no reason *a priori* to assume that the determinants of change (e.g. social and economic factors, program interventions) are essentially the same for all four facets identified above; far from it. Further, it is clear that among scholars, advocates, and policymakers there are differences in opinion about the weights that should be placed on each of these facets.

VI. Conclusion

The expert group meeting in October 2020 and subsequent discussion within the panel has clarified the work ahead. The panel now has a better understanding of the task of constructing an encompassing and unified explanatory framework for contraceptive transition. A broad range of theoretical and analytical challenges have been identified. All this will inform the panel's choice of topics for article-length review papers.

The next step will be finalization of the set of topics. Effectively, this set will constitute the proposed contents of the collection of papers for publication. Invitations to scholars to author these papers will follow soon thereafter.

ANNEX 1

October 2020 Expert Group Meeting

Topic	Author	Institution
Overview of Empirical Patterns	Vladimíra Kantorová	United Nations Population Division
Policies, Programs, New Technologies	Eliya Zulu	AFIDEP
Fertility Preferences	John Bongaarts	Population Council
Contraceptive Patterns: by Age/Parity, Stopping vs. Spacing, Method Type	Teresa Castro-Martin	Spanish Research Council
Contraception and Health Transition	Caroline Moreau	Johns Hopkins University
Macro Context: Economic Development	Mahesh Karra	Boston University
Gender Roles, Reproductive Autonomy	Shireen Jejeebhoy	Independent Researcher
	Zeba Sathar	Population Council, Pakistan
Macro Context: Political and Cultural Systems	Alaka Basu	Cornell University
Societal Crises – Disease, Civil Unrest, Economic	Georges Guiella	Université Joseph Ki-Zerbo