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MODERNIZACIÓN Y ESTADO DE BIENESTAR EN EUROPA: LECCIONES PARA LOS PAÍSES EN DESARROLLO

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Documento especial:

Debemos al profesor Assar Lindbeck la iniciativa de emplear el análisis de los problemas a los que se ven abocados los Estados de bienestar avanzados para extraer de esa experiencia lecciones útiles para los países en vías de desarrollo al diseñar sus propias políticas sociales. Su trabajo sirvió de inspiración para los estudios que hemos venido realizando y discutiendo a lo largo de estos dos últimos años, que se recogen ahora en los dos libros que hoy presentamos. Permítanme que los sintetice brevemente, siguiendo las reflexiones del profesor Lindbeck:

1.- Desarrollo Económico, cohesión social y modernización

El desarrollo económico no surge en un vacío social e institucional, sino en paralelo con el proceso de modernización de las sociedades tradicionales. Y lo mismo ocurre con la emergencia de formas modernas de cohesión social. De ahí que el libro del que soy autor sitúe la edificación del Estado de Bienestar precisamente en el contexto del proceso de modernización de España, analizado de forma comparada.

Toda sociedad estable desarrolla sus propios mecanismos de cohesión social. Las sociedades tradicionales desarrollaron —y desarrollan— sistemas de cohesión tan fuertes como los de las sociedades modernas, aunque allí la cohesión se practica preferentemente dentro de los grupos primarios de afinidad, que constituyen su estructura vertebradora —ya se trate de la familia extensa, ya de las diferentes modalidades de comunidad—. Algunos movimientos en las zonas más tradicionales de América Latina presencian hoy la revitalización de este tipo de lazos primarios, que, sin sacralizarse, deberían tenerse en cuenta a la hora de diseñar las políticas sociales, ya que el cambio cultural de países altamente heterogéneos no suele ser uniforme ni simultáneo.

Mientras subsisten los sistemas tradicionales de integración, la aplicación mimética de las políticas formales del Estado de Bienestar no resulta óptima, porque son excesivamente abstractas y su administración se basa en estructuras burocráticas, que tienden a romper el tejido social tradicional sin sustituirlo por otro compatible con el resto del sistema. Aplicar mecánicamente las modernas políticas de bienestar —sin una adaptación previa al contexto
económico y social de la sociedad tradicional—corre el riesgo de provocar trampas de dependencia y pobreza, junto a la descomposición del sistema de incentivos imprescindible para el funcionamiento de cualquier sociedad—como ha señalado el profesor Lindbeck.

De hecho, la modalidad de Estado de bienestar más extendida en el continente europeo—el denominado “régimen bismarckiano”—, se apoyó ampliamente durante su primer siglo largo de existencia sobre las estructuras primarias de cohesión, actuando inicialmente sólo con carácter subsidiario, y extendiéndose después paso a paso, hasta consumar los procesos de urbanización, de monetización económica y de formalización del empleo en mercados de trabajo modernos. Finalmente, el aumento de peso de la familia nuclear y la plena individualización de las pautas culturales impulsaron la demanda generalizada de derechos de ciudadanía social.

El que hoy consideremos que éstas son las políticas deseables y adecuadas para nuestra propia sociedad no puede hacernos olvidar el largo proceso de aprendizaje realizado hasta aquí. La recuperación de muchas de aquellas políticas—puestas al día con lo que ahora sabemos, y analizadas “como si” hubiésemos dispuesto a priori de una “estrategia” de edificación del Estado de bienestar—puede resultar útil hoy en países con diferentes niveles de desarrollo y urbanización.

Esto es lo que hace Julio Carabaña en su análisis del efecto acumulativo de los distintos estadios por los que ha ido atravesando nuestro sistema educativo. Ana Rico y sus colaboradores, por su parte, consideran exportable hacia otros ámbitos la idea subyacente a las políticas de micro-aseguramiento sanitario aplicadas en la España rural de los años cincuenta y sesenta, de la que sólo nos separen cuarenta años y algo más de diez mil euros de renta per capita, que era en aquella etapa similar al promedio actual del conjunto de América Latina, lo que hace que el proceso de desarrollo español resulte relativamente próximo y comparable con el de aquella región—además de existir otras peculiaridades culturales e institucionales, propias del denominado “modelo latino de modernización”.

En cambio, cuando la modernización social desata los lazos tradicionales, la ausencia de una implantación simultánea de políticas modernas de cohesión aumenta exponencialmente la amenaza de desintegración social. Su correlato son sociedades proclives a los mensajes mesiánicos, a explosiones románticas o a la involución democrática de uno u otro signo. De todo ello existen amplios ejemplos en nuestra propia historia y en la de América Latina, con casos actuales bien conocidos.
La reciente Cumbre de Santiago de Chile, al situar la cohesión social en el primer plano de las políticas Iberoamericanas, puede señalar el comienzo de una nueva etapa, equiparable a la iniciada en Europa al término de la última Gran guerra. Recordemos que esta senda no sería transitada por España hasta treinta años más tarde, lo que no fue obstáculo para que desde entonces se haya producido una recuperación considerable del atraso y las carencias sociales acumulados hasta la llegada de la democracia, lo que emite una señal de optimismo para quienes afrontan ahora esa tarea de convergencia.

2.- Cohesión social, Estado y “regímenes de bienestar”

La experiencia Europea del Estado de Bienestar no es uniforme, sino que consiste en una variedad de arquitecturas institucionales, adaptadas cada una al contexto social, histórico y económico en que surgieron, y a las estrategias elegidas libremente por los ciudadanos de cada país. No existe una senda “correcta” de cohesión social. No es esa la experiencia europea, ni la que mejor conviene a América Latina, que dispone en su seno de tanta o mayor diversidad como la existente en Europa, lo que se refleja en procesos de elección social que no resultan coincidentes.

En nuestro libro colectivo, Ruud de Mooij sintetiza esta experiencia plural situando en los procesos de elección social democrática la oportunidad de elegir entre los tres grandes regímenes o modalidades de bienestar —el “residual”, el “universal” y el “diversificado”—, y de corregir periódicamente —en todo o en parte— la elección previamente realizada, como se está haciendo en Holanda.

El modelo “diversificado” de bienestar es el resultado de la evolución del régimen “bismarckiano”, tras incorporar múltiples rasgos de los otros dos regímenes, sin perder por ello el énfasis en la confianza, en las relaciones a largo plazo y en la solidaridad descentralizada en grupos reducidos. En cualquier caso, todos los regímenes que existen actualmente en Europa son modelos híbridos o mestizos, como señala Jean Claude Barbier refiriéndose al Estado de bienestar en Francia.

El sistema de bienestar español combina políticasstrictamente contributivas con prestaciones de seguridad social no contributivas, y sistemas universalistas de derechos subjetivos —como la educación, la sanidad o las prestaciones del Sistema de Dependencia y Autonomía—, con redes o mallas de seguridad y renta mínima, cuyos beneficiarios potenciales se someten a la prueba de carencia de ingresos, lo que disminuye el riesgo de fraude respecto al de los derechos universalistas.
Además, estos derechos y garantías provienen en unos casos del establecimiento integral de derechos indivisibles, y en otros son fruto de la acumulación de derechos y la superposición de sistemas de protección configurados a lo largo del tiempo, como señala Luis Moreno al hablar de la última malla de seguridad en España. A su vez, el conjunto de instituciones públicas que participan en la prestación de estos derechos, garantías y servicios comprende desde el Estado y sus institutos especializados, a las Comunidades Autónomas o los Ayuntamientos, coordinados a través de planes integrados de protección, de implantación reciente, tanto en España como en la UE.

Y, aunque parezca contradictorio, cuando hablamos del Estado o los regímenes de bienestar en Europa no nos referimos exclusivamente a las políticas públicas, sino que incluimos en él a un conjunto amplísimo de prácticas sociales, dirigidas al objetivo de compartir riesgos vitales o económicos y de corregir las desigualdades en la dotación de recursos y capacidades o en los resultados del mercado. Assar Lindbeck señala además que estas prácticas deben ser compatibles con los incentivos para la acción, la iniciativa individual, el crecimiento y la acumulación de capital social.

Por extensión, estas prácticas no comprometen exclusivamente al Estado y sus instituciones afines, sino que en ellas participan múltiples agentes de la sociedad civil, como las organizaciones clásicas de defensa de intereses, familias, empresas, entidades o asociaciones no lucrativas —altruistas o fundacionales—, junto a un número creciente de ONG’s que interactúan en red con el Estado para alcanzar aquellos objetivos por vías pluralistas.

Pero la acción del Estado resulta crucial para desencadenar el círculo virtuoso del crecimiento con cohesión social, estableciendo en primer lugar la arquitectura institucional del sistema de bienestar. Treinta años después de los Pactos de la Moncloa seguimos extrayendo enseñanzas de la senda iniciada entonces en España, que empezó por consensuar una reforma fiscal moderna, sobre la que se cimentó toda la arquitectura del naciente Estado de bienestar, apoyado sobre los nuevos derechos, constitucionales, que posibilitaron su desarrollo en un contexto de concertación y pactos sociales, del que todavía somos deudores.

El acervo de capital social acumulado por la democracia española tiene un valor inestimable, y así se considera hoy en muchos países de América Latina. El análisis riguroso de sus luces y éxitos, pero también de sus vicisitudes, interrupciones y consecuencias no deseadas, constituye la mejor recomendación que puede hacerse de ella.
3.- Pluralismo y coordinación en la Europa social

Nuestro trabajo pone de manifiesto la multiplicidad de vías para garantizar la sostenibilidad de los sistemas de pensiones: desde el cambio estructural realizado en Suecia —recomendado por Lindbeck y estudiado por Edward Palmer— a la reforma por acumulación de cambios parciales y la incorporación de estabilizadores demográficos en Alemania —estudiada por Börsch-Supan y sus colaboradoras—, sin mencionar la senda de reforma consensuada en España en los pactos de Toledo, para hacer frente a los problemas de envejecimiento demográfico a largo plazo, estudiados por José Antonio Herce.

Gøsta Esping-Andersen analiza la importancia de la intervención temprana en la educación infantil de calidad para corregir la desigualdad asociada al estatus familiar y para desarrollar la capacidad cognitiva de los niños, que es el recurso estratégico de la sociedad del conocimiento, lo que marca nuevas tareas para la política educativa de Europa y de América Latina, como señalan Álvaro Marchesi y Simon Schwartzman.

Además, el mantenimiento de un equilibrio adecuado en las transferencias intergeneracionales —entre activos, jóvenes y pensionistas—, resulta crucial para garantizar la aceptación de los Estados de bienestar en los procesos democráticos de elección social a lo largo del siglo XXI, como señaló en la síntesis final del libro colectivo.

En suma, es necesario evitar dogmatismos o transferencias miméticas de la experiencia europea al diseñar nuevas políticas sociales en América Latina. Al comienzo del libro, Howard Glennerster proporciona una buena evaluación de la riqueza depositada en la diversidad y heterogeneidad europea, que cuenta ya con una política de articulación (a la que denominamos “método abierto de coordinación”). Este es el ejemplo más acabado de las políticas “blandas” de integración practicadas en el seno de la Unión Europea.

Estrictamente hablando, el modelo europeo de Estado de bienestar —o la Europa social—, no es mucho más que eso, junto a las transferencias realizadas a través de los fondos estructurales, que son relativamente modestas: algunos piensan que la suma de todo ello no es gran cosa. Lo que sucede es que en el ámbito global no se dispone de nada mejor —al menos, desde la perspectiva de la estructura de preferencias de las sociedades europeas—. Es lo mismo que le ocurre a la democracia. Muchas gracias.
Referencias


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i Palabras leídas en el auditorio de la Biblioteca Nacional el 21 de noviembre de 2007, en el acto de presentación de los libros *Modernización y Estado de bienestar en España, y Estado de bienestar y competitividad. La experiencia europea*, coeditados por la Fundación Carolina y la editorial Siglo XXI, de los que Álvaro Espina es autor y coordinador, respectivamente. Estos dos libros se corresponden —una vez corregidos y editados— con los materiales incluidos en el Cuaderno de Documentación nº 84 (julio de 2007). El Acto de presentación contó con la presencia del profesor Assar Lindbeck, como conferenciante de honor. El título de su conferencia magistral fue: “Prospects for the Welfare State.” Aunque su contenido fue original (y se dispondrá por escrito del mismo durante el primer trimestre de 2008), en líneas generales el argumento desarrollado en la misma se corresponde con el de Lindbeck (2006), reproducido en este CD.


iii El problema resulta particularmente agudo en EE UU, en donde la curva en forma de U que representa el grado de bienestar a lo largo del ciclo vital ha ido cayendo a lo largo del tiempo, mientras que en Europa ocurría lo contrario —con la salvedad de lo ocurrido a mediados de los años cuarenta, que registra los datos mínimos a ambos lados del Atlántico (Blanchflower, 2006).
LA EUROPA SOCIAL Y LA COORDINACIÓN DE LA HETEROGÉNEIDAD.

Álvaro Espina

1. Estado de bienestar y transferencias intergeneracionales

El Estado de bienestar europeo puede contemplarse parcialmente como un sistema institucional que viene a sustituir al conjunto de prácticas tradicionales de interacción entre tres grupos de generaciones que se solapan de forma rotatoria en la vida social: la de los niños y jóvenes educandos, la de la población en sus edades activas, y la de los jubilados. Medido en escalas de tiempo esto significa, *grosso modo*, entre veinte y veinticinco años de preparación, casi el doble de tiempo vital dedicado a la actividad económica, y una etapa final de inactividad económica, cuya duración tiende a aproximarse a la primera, a medida que aumenta la esperanza de vida. Como señaló en el capítulo de síntesis final en Espina (coord., 2007; en adelante AE), no ha existido una causalidad histórica directa para aquella transformación, sino más bien una selección evolucionista de las mejores prácticas y modelos de interacción, a través de efectos de difusión institucional que se remontan a los orígenes de los procesos de industrialización y modernización —estimulados por la aparición de una nueva complementariedad entre las inversiones en capital físico y en capital humano (Galor y Moav, 2006)— y que en esta última etapa ha llegado a dotarse de una estructura articulada dentro de la UE a través del denominado “Método Abierto de Coordinación” (MAC).

Los materiales presentados a la conferencia “Estado de bienestar y competitividad. La experiencia europea y la agenda para América Latina”, celebrada en Madrid los días 26 y 27 de abril de 2007—publicados ahora en AE—, analizan los aspectos cruciales de las grandes políticas de bienestar, abordando preferentemente la problemática de aquellas políticas que se enfrentan en la actualidad a retos más evidentes y que están siendo sometidas a un escrutinio más abierto y generalizado, lo que ha dado lugar ya a considerables avances en el stock de conocimiento disponible. Como todo el continente ha experimentado la segunda transición demográfica y se enfrenta al futuro envejecimiento de la población, los problemas más acuciantes para la viabilidad a largo plazo del Estado de Bienestar en Europa se refieren precisamente a la sostenibilidad del juego de transferencias intra e intergeneracionales —especialmente estas últimas—. No obstante lo cual, algunos trabajos —como el de Howard Glennerster o el de Ruud de Mooij— centran su atención en el tipo de reformas que tratan de...
recuperar los incentivos para el trabajo y de mejorar la calidad y la eficiencia de los servicios de bienestar, como sucede también en el de Ana Rico et al.

Edward Palmer (diagrama 1) realiza un estudio magistral del nuevo sistema sueco de pensiones, que persigue el equilibrio de las transferencias intergeneracionales introduciendo dos cuentas individuales de capitalización: una “nacional” —o simplemente conceptual, aunque siga siendo realmente un sistema de reparto—, y otra financiera, de capitalización en sentido estricto. Una y otra garantizan que las prestaciones recibidas por el pensionista son el resultado equitativo, desde el punto de vista actuarial, de la capitalización de las contribuciones realizadas a lo largo de toda la vida de los beneficiarios, lo que supone un vuelco sobre el sistema anterior, por lo que la reforma sueca señala un antes y un después en la forma en que concebimos los sistemas de pensiones en los diferentes “regímenes de bienestar”, ya que deja en manos del beneficiario las grandes decisiones que en los sistemas de reparto tradicionales operan de forma paramétrica erga omnes.

1.- EL NUEVO SISTEMA SUECO DE PENSIONES: UN NUEVO EQUILIBRIO INTERGENERACIONAL

Introduce dos cuentas individuales (Edward Palmer)

1.- Una cuenta de “capitalización nacional” (NDC), con tipo de capitalización fijado por el Estado, que es quien gestiona los recursos.
   • aportaciones anuales el 16% de la renta, entre empleado y empleador
   • tasa de retorno basada en el crecimiento de los salarios
   • reglas para jubilarse basadas en esperanza de vida a la edad de jubilación (tasa de retorno del 1,6%). Jubilación voluntaria a partir de los 61 años

2.- Otra cuenta financiera (FDC), o fondo de pensiones clásico, con gestoras registradas.
   • aportaciones anuales: 2,5% de la renta; tasa de retorno de mercado.

3.- Plena equidad actuarial, respecto a las contribuciones realizadas a lo largo de toda la vida de los beneficiarios. Supone un vuelco sobre el sistema anterior.

4.- La solidaridad se articula cubriendo el Estado los riesgos de cotización (por enfermedad, incapacidad, desempleo, permisos parentales, cuidados, etc.) y estableciendo una pensión mínima garantizada.

En cambio, Axel Börsch-Supan, Anette Reil-Held y Christina B. Wilke (diagrama 2) consideran perfectamente posible llegar a esos mismos resultados de equidad actuarial utilizando procedimientos aparentemente contrapuestos —manteniendo formalmente el
sistema de reparto, aunque introduciendo cambios paramétricos sustanciales—. Para lograrlo, en aras de facilitar la economía política de la reforma, el sistema de pensiones alemán ha venido realizando una serie de cambios sucesivos en las condiciones, los coeficientes y los umbrales de aplicación que regulan el sistema, tendentes a la consecución del mayor grado de equidad actuarial, añadiendo finalmente un mecanismo de estabilización frente a los shocks demográficos. En general, todos los sistemas de pensiones de la Unión Europea se enfrentan a la disyuntiva de adoptar reformas graduales que anticipen las perspectivas de envejecimiento a cincuenta años vista —aprovechando la bonanza demográfica, cuando todavía disponen de tiempo— frente a la alternativa de tener que adoptar más tarde reformas drásticas, sorprendiendo y dificultando el “ahorro precautorio” de los beneficiarios (EU, 2006).

2.- LA REFORMA ALEMANA HACE CASI LO MISMO, PERO CON UN SISTEMA DE REPARTO

Mantiene el sistema de reparto, con prestaciones definidas introduciendo cambios paramétricos sustanciales (Axel Börsch-Supan et al.)

1.- Cambios sucesivos en las condiciones, los coeficientes y los umbrales de aplicación que regulan el sistema de reparto. Reduce en 10 puntos la tasa de reposición (desde el 70%).

3.- El objetivo consiste en conseguir el mayor grado de equidad actuarial; incorpora en su diseño la equidad actuarial; además...

3.- Se agregan dos nuevos pilares:

I. Un segundo pilar de pensiones ocupacionales, permitiendo convertir salarios en fondos de pensiones de tipo DC.

II. Un tercer pilar con cuentas individuales de capitalización voluntarias, con tutela estatal y con imposición fiscal diferida (impuesto negativo para los niveles inferiores de renta)

4.- La cohesión se consigue complementando las cotizaciones con subsidios estatales (actualmente: el 30 % del presupuesto del sistema, o el 8,5 % del PIB). Suple las cotizaciones derivadas de los riesgos del ciclo vital y financia una pensión mínima garantizada (15 % superior al ingreso básico asistencial), con prueba de ingresos.

5.- Se introduce un mecanismo de estabilización frente a los shocks demográficos.

El diagrama 3 ubica los sistemas de pensiones en un espacio delimitado por tres ejes: el actuarial (NA-AC) —que define el grado de correspondencia entre aportaciones realizadas y beneficios recibidos, y que determina los incentivos para participar activamente en el mercado de trabajo—, el de grados de capitalización —que define el riesgo político de las transferencias intergeneracionales, en el caso de las pensiones de reparto, y el de mercado, en el de las pensiones de capitalización—, y el que se basa en la definición de las aportaciones, frente a la de los beneficios o prestaciones, lo que determina el tipo de ajustes que es posible
realizar para hacer frente a los riesgos o shocks —mediante ajustes de las cotizaciones, en el caso DB, y mediante ajustes en la cuantía efectiva de las pensiones, en el caso DC—.

3.- TRIDIMENSIONALIDAD DE LAS PENSIONES

**CONCEPTUALIZACIÓN DE LOS SISTEMAS DE PENSIONES:**
- **DB:** Prestaciones definidas fijas, o con tasa de reposición determinada. ¿Ajustables?
- **DC:** Aportaciones fijas (tasa de cotización, respecto a ingresos) ¿Ajustables? ¿Cuentas individuales?
- **NA:** Pensión uniforme (lump-sum) o sin equivalencia actuarial
- **AC:** Pensiones contributivas con equivalencia actuarial. ¿Con cuentas individuales NDC?
- **RE:** Reparto (prestaciones abonadas con aportaciones actuales que crecen en ritmo de la base fiscal).
- **CA:** Capitalización financiera con tasa de retorno de mercado. ¿Con cuentas individuales FDC?

Puede observarse que los sistemas de pensiones a los que se refieren Palmer y Börsch-Supan et al. se sitúan en la parte posterior y anterior de la cara inferior derecha del cubo, respectivamente (puntos B y II, situado este último algo más a la izquierda, debido a la dificultad de definir pensiones de reparto y con beneficios definidos que resulten plenamente equitativas desde el punto de vista actuarial). En cambio, la pensión básica estatal, característica del sistema británico tradicional, ocupa la posición I, mientras que los segundos pilares de capitalización financiera, introducidos de forma complementaria tanto por la reforma sueca como por la alemana, de capitalización financiera, se sitúan en el extremo posterior derecho de la cara superior (A), minimizando el riesgo político o de ajustes, pero haciendo recaer el riesgo de mercado plenamente sobre el beneficiario. Puede afirmarse que no hay reforma tendente a la sostenibilidad de los sistemas de pensiones que no tenga coste. Todas ellas se ven obligadas a transitar por el interior del cubo tridimensional, tratando de optimizar conjuntamente los incentivos para participar en el mercado de trabajo, el margen
disponible para realizar ajustes con que hacer frente a los shocks exógenos y el tipo de riesgo —político o de mercado— que afrontan las generaciones activa y pasiva (Diamond, 2006).

En el otro extremo de las transferencias intergeneracionales del Estado de Bienestar se encuentra el gasto público dedicado a la educación, que se dirige precisamente hacia las generaciones iniciales de la pirámide de población. De la cantidad y calidad de este tipo de transferencias depende en última instancia el acopio de recursos humanos de que dispondrá cada país en el futuro. En AE, Esping-Andersen demuestra con evidencia empírica contundente la elevada prioridad que tiene la inversión en los niños y la extraordinaria relevancia de la calidad de la formación inicial y de otros factores no económicos —como la conciliación entre vida familiar y trabajo— para la igualdad de género y para los resultados del proceso educativo ulterior (diagrama 4).

4.- NUEVAS LÍNEAS DE EXPLORACIÓN

Gosta Esping-Andersen

- Carácter determinante para la formación de la capacidad cognitiva de todos los niños —no solo de los más pobres— de disponer de una educación adecuada, profesional y eficiente durante la etapa preescolar.
- Papel paralelo con la atención afectiva en el seno de la familia.
- La tasa de retorno de la inversión en este tipo de educación duplica a la de la inversión destinada a la escolarización en edades convencionales.
- De ahí que la inversión en educación y cuidado de la infancia constituya el fulcro de la innovación, la productividad y el crecimiento económico futuros. Además:
  1. Eleva de forma equitativa las transferencias intergeneracionales realizadas en el seno del Estado de Bienestar,
  2. Tiene también implicaciones de largo alcance sobre la distribución de la renta, la igualdad de género y la participación de la mujer en la actividad económica.

Howard Glennerster

- La profundización de las políticas de calidad en la enseñanza superior debe financiarse mediante préstamos o anticipos reintegrables individualmente por los beneficiarios de ese capital humano adicional, con cargo a la mejora absoluta de su posición futura en el mercado de trabajo

En la sociedad del conocimiento, hacia la que nos dirigimos, tales resultados constituyen el insumo fundamental que determina la competitividad y la capacidad de innovación y de creación de riqueza, de la que depende, a su vez, la sostenibilidad del intenso flujo de transferencias intergeneracionales hacia las generaciones de mayor edad, propias de los Estados de bienestar avanzados, que vienen experimentando la segunda transición demográfica.
Dada la relevancia de la intervención educativa de calidad en las edades tempranas, Esping Andersen recomienda desplazar hacia la educación infantil parte de la prioridad concedida actualmente a la inversión pública en educación universitaria, lo que resulta consistente con la posición defendida por Howard Glennerster, que postula apelar de forma creciente a una mezcla de financiación pública y privada para el aumento de la inversión en educación superior —mediante créditos reembolsables a cargo del beneficiario individual—, dada la mayor facilidad para la apropiación privada de los beneficios derivados de esta última, en términos de un mayor flujo de ingresos a lo largo de toda su vida activa (diagrama 4).

5.- CUANTIFICAR LAS TRANSFERENCIAS INTERGENERACIONALES

\[(\text{I}): \text{Valor del capital humano acumulado en función del GPE (Gasto Público medio anual por Estudiante):} \quad \text{CH} = \text{GPE} \cdot \left[\frac{1}{(1+i)^{n}} - 1\right]/i\]

\[(\text{II.a}): \text{Aportación anual bruta para pensión:} \quad \text{ABA} = \tau \cdot w\]

\[(\text{II.b}): \text{Aportación neta anual total:} \quad \text{ANA} = \text{ABA} + \frac{\text{GPE} \cdot \left[\frac{1}{(1+i)^{n}} - 1\right] - \text{CH} \cdot \left[\frac{i}{(1+i)^{n}}\right]}{(1+i)^{n}}\]

\[(\text{II.c}): \]

\[(\text{II}): \text{Fondo acumulado para la pensión} \quad \text{FP} = \text{ANA} \cdot \left[\frac{1}{(1+i)^{n}} - 1\right]/i\]

\[(\text{III.a}): \text{Capital-coste de la pensión} \quad \text{CP} = \sigma \cdot w \cdot \left[\frac{1}{(1+i)^{n}} + \frac{i^{n}(1+i)^{n}}{i(1+i)^{n}}\right] + 2 \cdot v \cdot \sigma \cdot w / (1+i)^{n} + 1.5\]

\[i: \text{tipo de interés de equilibrio; } e: \text{esperanza años de educación; } n: \text{duración carrera laboral; } \eta: \text{esperanza de vida a la edad legal de jubilación; } \tau: \text{tipo de cotización; } w: \text{salario medio; } \sigma: \text{tasa de sustitución; } v: \text{ratio pension de viudedad/pensión de jubilación}\]

Por mi parte, siguiendo la orientación de Becker y Murphy (1988) y los trabajos de Boldrin y Montes (2005), he construido un modelo sencillo para evaluar la equidad y la eficiencia de las transferencias intergeneracionales entre esas tres generaciones —la de educandos, la generación activa y la de pensionistas— que constituyen la columna vertebral de los Estados de bienestar modernos. Aplicando matemáticas financieras elementales, los procesos en los que se basan aquellas transferencias intergeneracionales adoptarían la forma descrita en el diagrama 5.
6.- EQUILIBRIO INTERGENERACIONAL

Parámetros España 2006 \((i = 3.55\%; n = 40\) años):

1. \(e = 17.2; \eta = 19.04\)
2. \(\text{GPE} = 5.075\) €
3. \(\text{w} = 19.577\) €; \(\sigma = 82.9\%; \tau = 24.4\%; \nu = 49.5\%
4. \(\text{FP} = \text{CP} = 229.700\) €

En cambio, la edad real de jubilación se sitúa en 62.9 años \((n=37.9; \eta: 21.2\) años), lo que introduce un desequilibrio del 21.3%:

1. \(\text{FP} = 202.759\) €
2. \(\text{CP} = 245.974\) €

Por eso, los “Pactos de Toledo” (1995) fijan como objetivo de elevar la edad efectiva de jubilación hasta alcanzar la edad legal de 65 años.

Francia: reforma Balladur de 1993 eleva a 40 años (J. C. Barbier)

Los romanos I, II y III se refieren obviamente a las tres edades (educativa, activa y de jubilación) y las letras a, b y c a los diferentes epígrafes de retorno o aportación registrados en cada edad: durante la edad activa, la expresión \{II.a\} se refiere a la acumulación de cotizaciones brutas; la \{II.b\}, a la devolución de las \(e\) anualidades del préstamo educativo mediante impuestos en \(n\) plazos, y la \{II.c\} al retorno social del capital humano, convertido en \(n\) anualidades, que remunera el ahorro para la vejez, como se explícita en \{II\}; a su vez, entrando ya en la edad de pasiva, \{III.a\} es el capital-coste de la pensión de jubilación, y \{III.b\} el de la de viudedad (que, por simplificación, se aproxima en este caso como dos anualidades adicionales, situadas en el punto medio del período de percepción, ya que la esperanza media del cónyuge superviviente supera en dos años la esperanza media de vida de ambos sexos a los 65 años).ii

Obviamente, la condición de equilibrio entre las transferencias intergeneracionales se cumple cuando \(\text{FP} = \text{CP}\), lo que permite disponer de un test para monitorizarlo, ya que en los sistemas democráticos —con procesos periódicos de elección social—, la estabilidad a largo plazo del juego de transferencias depende en última instancia de que las sucesivas generaciones consideren equitativo el trato recibido, de modo que preservar el equilibrio de las transferencias intergeneracionales constituye la mejor estrategia de sostenibilidad.
En AE he estimado que con los parámetros actuales del sistema español de pensiones el tipo de interés de equilibrio se sitúa en el 3,55% y cuando la jubilación se produce a los 65 años el fondo acumulado y el capital coste de la pensión se igualan en 229.700 €. Sin embargo —como se observa en el diagrama 6—, la edad efectiva de jubilación se sitúa actualmente en 62,87 años, lo que, a ese mismo tipo de interés, introduce un desequilibrio del 21,3% entre el fondo acumulado (202.759 €) y el coste real de la pensión (245.974 €). iii

2. Estado de bienestar y políticas contra la desigualdad

J. C. Barbier conceptualiza las reformas en curso del Estado de bienestar francés en términos de transición desde un modelo de tipo continental, centrado en el mantenimiento del status, a otro más universalista, inscribiendo el cambio dentro de la dinámica general de hibridación de modelos y de activación de las políticas sociales impulsada por la Unión Europea. Por su parte, Ruud A. de Mooij analiza la economía política de tres escenarios de reforma —o “regímenes de bienestar”—, de cara a articular procesos de elección social en los que los ciudadanos eligen su futuro colectiva y responsablemente, de acuerdo con sus preferencias y opciones vitales (diagrama 7). Estas dos aportaciones, al igual que la mía propia (Espina, 2007), enfatizan el papel de las instituciones y las políticas dirigidas hacia el mercado de trabajo, las relaciones industriales, el empleo y el desempleo, sobre las diferencias que se observan en los niveles y las tendencias de los indicadores de desigualdad en Europa, al compararlos con los de otras áreas.

En buena medida, aquellas diferencias se deben al hecho de que Europa no ha experimentado una erosión tan pronunciada de ese conjunto de instituciones como el que Frank Levy y Peter Temin (2007) observan en Norteamérica, al imputar la enorme ampliación de las desigualdades de ingresos ocurrida en EEUU desde 1980 al desmantelamiento del conjunto de prácticas laborales derivadas del New Deal —al que estos autores denominan “el Tratado de Detroit”—, y a su sustitución por las prácticas antagónicas del “consenso de Washington”.

Los indicadores construidos por Levy y Temin son bien expresivos: Durante los últimos veinte años el 80 % de todas las ganancias de ingresos de las declaraciones fiscales fue a parar al 1 % más rico de la población. Utilizando como indicador de distribución el índice agregado nominal de los costes laborales unitarios del sector privado no agrario —al
que denominan “Índice de poder de negociación de los trabajadores” (BPI)—, la desigualdad habría aumentado en más de un 28 %, pasando de 0,6 en 1980 a 0,43 en 2005.

7.- REFORMAS DEL ESTADO DE BIENESTAR Y PROBLEMAS DE ELECCIÓN SOCIAL

1. Régimen de bienestar “residual”: buena flexibilidad del mercado de trabajo, incentivos y responsabilidad individual (sociedad heterogénea e individualista). Reino Unido (reformas path dependent):
   A. Experiencia de agotamiento del modelo: 40% de población sin pensión contributiva; degradación de la pensión básica estatal. “Opción de salida”
   B. Estrategias de eficiencia (activación, incentivos); calidad (evaluación, gestión privada), y nuevos mecanismos de financiación (begas, copago).

2. Régimen de bienestar “universal”: maximiza flexibilidad y eficacia en el funcionamiento del mercado de trabajo, a cambio de prestaciones sociales muy generosas y uniformes (sociedad homogénea, con fuerza de trabajo bien educada y escasa discriminación de género). Límites de madurez en el EB sueco

3. Régimen de bienestar “diversificado” (“bismarckiano” evolucionado): énfasis en la confianza, las relaciones a largo plazo y la solidaridad descentralizada en grupos reducidos; limita la progresividad fiscal, controla la desigualdad y mejora el funcionamiento del mercado de trabajo, subvencionando la integración de los menos dotados. Resulta más vulnerable a las sorpresas de la globalización y la inmigración. Flexi-seguridad (Holanda); Activación (Francia)

Ruud A. de Mooij

Otros indicadores resultan todavía más significativos de este aumento de la desigualdad, derivada del despojamiento institucional durante el último cuarto de siglo, que ha incidido naturalmente sobre las grandes tendencias registradas en el conjunto de países de la OCDE, aunque con menor intensidad en el continente europeo que en las otras áreas: El cociente entre los ingresos de la 90ª y de la 10ª percentil se acerca ya a cinco en EEUU; en los países centrales de Europa y en España se encuentra algo por encima de 3, y en los países nórdicos, en torno a 2,5. Esta menor desigualdad observada en Europa —y muy especialmente en los países nórdicos— está relacionada con el mayor apego del Continente hacia el conjunto de prácticas al que la sociología política denomina “neocorporatismo.” Sin embargo, Edmund Phelps (2006) imputa precisamente a estas prácticas la menor capacidad europea para innovar y para abordar las inversiones generalizadas acometidas por otras áreas para incorporarse rápidamente al nuevo racimo de tecnologías que están marcando el inicio de la nueva onda larga de crecimiento económico, frenando con ello su dinamismo durante los últimos quince años (debido a un cierto “efecto Anti-Gerhensenkron”, de retardo acumulativo).
Pero las cosas no son tan simples: Un análisis detallado de las implicaciones de las instituciones de bienestar sobre el crecimiento relativo de la productividad puede verse en el capítulo 2 de OCDE (2007). Además, los resultados conseguidos por la economía norteamericana durante el pasado decenio descansan pesadamente sobre una política monetaria apoyada por el papel internacional del dólar —cuyos efectos negativos tardan en dejarse sentir porque se diluyen en la economía global, pero ya no resultan sostenibles (Espina, 2005; Shostak, 2007)— y en las asimetrías del impacto del tipo de cambio sobre el comercio exterior norteamericano (Vigfússon et alia, 2007), asociadas al privilegio de que disfruta el líder económico mundial, cuya posición ya está siendo contestada.

8.- EL ESTADO DE BIENESTAR Y LA EUROPA SOCIAL

LOS LÍMITES DE LA EUROPA SOCIAL

A. ES MÁS UNA VOLUNTAD COLECTIVA (FIRME, PERO DIFUSA) QUE UNA REALIDAD UNITARIA.

B. LA MAYOR PARTE DE LAS POLÍTICAS Y LAS INSTITUCIONES IMPLICADAS EN LA “EUROPA SOCIAL” NO SON “EUROPEAS”, SINO NACIONALES

C. INTERVENCIÓN DEL ESTADO EN LOS REGÍMENES DE EB:
   a. Máxima en el “régimen universalista”
   b. Subsidiaria en el “régimen diversificado”
   c. Mínima en el “régimen residual”

D. UE IMPLANTA EL MÉTODO ABIERTO DE COORDINACIÓN

E. NUESTRO PROYECTO TRATA DE INCLUIR A LATINOAMÉRICA EN ESTE PROCESO DE “BLANDO” DE APRENDIZAJE COOPERATIVO.

F. RECOMENDAMOS HACER LO QUE HACEMOS, NO LO QUE DECIMOS QUE HAY QUE HACER

Pero la “Europa social” se caracteriza precisamente por su diversidad (diagrama 8). El caso de los países nórdicos (con máxima intervención del Estado) demuestra que una acertada coordinación “neocorporatista” de la negociación salarial, junto a políticas de bienestar con hondo calado redistributivo, no están reñidas con la innovación ni con la competitividad, como pone de manifiesto José Antonio Alonso en AE. En Espina (2007) hago énfasis en los profundos cambios experimentados por el “neocorporatismo,” en España y en otras zonas del Continente, hasta aproximarse a las mejores prácticas de los países nórdicos —tras atravesar
por una etapa dubitativa en la que los interlocutores sociales se vieron obligados a superar tentaciones románticas de vuelta atrás, etapa que puede considerarse como una inversión en aprendizaje colectivo y en capital social—. De hecho, la relación “parabólica”, “en forma de U”, entre densidad o nivel de centralización de la negociación salarial y eficiencia económica —que fue objeto de un considerable consenso académico— resulta hoy insostenible y se atribuye más bien a características del sistema económico anteriores al decenio de los noventa. Tampoco tiene cabida en el análisis de Phelps la constatación del fallo reiterado del mercado de trabajo a la hora de establecer un precio único de ese factor en condiciones de homogeneidad de la prestación. En cambio, la única evidencia generalmente contrastada es el efecto que ejercen las instituciones del mercado de trabajo sobre la corrección de las desigualdades salariales, muy especialmente cuando se registra continuidad de los sistemas de negociación, lo que minimiza los costes de transacción y facilita el tipo de acuerdos entre agentes económicos propugnado por el “teorema de Coase” para optimizar la eficiencia (Freeman, 2007).

Es cierto, sin embargo, que, a cambio de mantener bajo control el nivel de desigualdad\[vii\], los grandes países centrales del Continente han reaccionado con menor dinamismo y flexibilidad al cambio de contexto económico y tecnológico, lo que ha dañado el crecimiento y elevado la tasa de desempleo estructural —aunque haya impulsado también el crecimiento de la tasa de empleo—, algo que la Unión Europea trata de corregir de forma concertada desde comienzos de siglo a través del MAC y de las Estrategias de “Lisboa” y “Luxemburgo.” Además, el progreso y el crecimiento duraderos no dependen exclusivamente del dinamismo de la oferta y la innovación tecnológica, sino que incluyen también complejos avances en las interacciones en red de todo el tejido social —cuya escala y grado de diferenciación aumentan exponencialmente, a medida que se avanza hacia el mercado global—, y su evaluación debe tomar en consideración paralelamente la sostenibilidad de la demanda agregada a largo plazo, como indica Axel Leijonhufvud en su comentario al trabajo de Phelps.\[vii\] Bien es verdad que muchos estudios detectan igualmente eficiencia marginal decreciente en las políticas neocorporatistas, pero este descenso resulta mucho más frecuente en los sistemas semicerrados —propicios a la aparición de prácticas de extracción de rentas \(\textit{rent-seeking}\) — que en los sistemas abiertos, ya que el proceso globalizador se encarga de desmontar tales prácticas, siempre que las negociaciones neocorporatistas resulten transparentes y se vean sometidas al control democrático de resultados (Freeman, 2007), como está sucediendo en la mayoría de los países europeos en que siguen vigentes.\[viii\]
3. La edificación de un Estado de bienestar moderno y diversificado en España

Finalmente, otras experiencias analizadas en AE hablan por sí solas también de los problemas que es necesario afrontar para edificar un Estado de bienestar moderno en un plazo de tiempo relativamente breve, como ha sucedido en España durante los últimos treinta años. Sus enseñanzas resultan ilustrativas del tipo de políticas que pueden aplicarse para transformar instituciones tradicionales relativamente arcaicas en piezas de un Estado de bienestar moderno y diversificado, ya que —como señalará Assar Linbeck (2002)— no es aconsejable desmantelar tales instituciones de forma precipitada. Por ejemplo, Luis Moreno ha analizado la forma en que España ha ido tejiendo una última malla de protección social cubriendo huecos, complementando y modernizando instituciones preexistentes, coordinando la acción de los diferentes niveles de las administraciones públicas e interactuando con la acción de la iniciativa privada, pero rompiendo con la filosofía de asistencia pública, para edificar una sociedad de bienestar anclada en el ejercicio de derechos individuales. Esta última red de seguridad del Estado de bienestar español actúa como elemento de cierre de todo el sistema de protección, atendiendo las necesidades mínimas absolutas de los grupos de población amenazados por la exclusión social. En España, estas políticas están constitucionalmente reservadas a las Comunidades Autónomas, por lo que la experiencia de cooperación entre todos los poderes públicos territoriales en esta materia puede resultar ilustrativa para América Latina, en contextos en que el elevado nivel de informalidad de las actividades económicas hacen de estas políticas casi los únicos instrumentos practicables para combatir la pobreza.

Un caso paradigmático de transición desde instituciones tradicionales de asistencia sanitaria hacia el tipo de servicios sociales característicos del Estado europeo de bienestar lo proporciona la experiencia de edificación de un servicio universal de salud en la España de los años ochenta, a partir de la existencia previa de una red de atención sanitaria pública en el ámbito rural, basada en el monopolio profesional de demarcaciones médicas, y de esquemas históricos de micro-aseguramiento complementario (bajo el mecanismo denominado de las “igualas médicas”), como plataforma para establecer una red de atención primaria de la Seguridad Social con elevada eficiencia comparativa, medida a través de la ratio satisfacción / coste. Como señalan Rico, Freire y Gérvias en AE, a este elevado nivel de eficiencia no resulta ajena la política de “devolución” de competencias a los poderes públicos “subnacionales”, con lo que ello comporta de mayor capacidad de organización —y de adaptación a la diversidad de características sociales de cada territorio—, de innovación,
rivalidad competitiva y oportunidades de control democrático y rendición de cuentas (accountability), a través de procesos de elección social mucho más ricos y diversificados. Como en el caso de Canadá, la experiencia española demuestra que la existencia de un Sistema nacional de salud —con derechos universales comunes— no resulta incompatible con la más amplia descentralización política, ni con la coordinación “blanda” y la fertilización recíproca entre los poderes públicos de los diferentes niveles. Rico, Freire y Gérvás otorgan prioridad absoluta a lo largo de toda la etapa fundacional a la atención primaria pública y a la universalización y la satisfacción de los ciudadanos con unos servicios de salud eficientes en términos económicos, evitando cualquier anquilosamiento burocrático.

Edificar Estados de bienestar en países que llegan en penúltimo lugar —como ha sucedido en España y está sucediendo en Latinoamérica—, deja escaso margen para disfrutar de cualquier modalidad de narcisismo adanista o para apelar a doctrinarismos. Julio Carabaña ha analizado la superposición de las políticas autoritaria y democrática en la conformación del sistema educativo español, junto a los diferentes efectos de las alternativas cantidad / calidad, inversión privada / inversión pública, expansión cuantitativa / reformas estructurales, sistemas divididos / reformas comprensivas, o la sucesión de sistemas de gestión y el impacto de la descentralización política sobre los resultados educativos. A la luz de la experiencia española, Álvaro Marchesi fija como objetivos inexcusables un mínimo de 12 años de escolarización con cinco horas lectivas diarias, el control riguroso de niveles aceptables de calidad en todos los centros escolares —independientemente de su estatus— y condiciones laborales dignas para todos los docentes.

Uno y otro ponen de manifiesto igualmente el carácter acumulativo y parsimonioso de la edificación de los sistemas educativos, el rendimiento marginal decreciente de este tipo de inversión —y, en consecuencia, el imperativo de priorizar la cantidad de educación básica universal—, junto a la imprescindible modestia que debe guiar el propósito de los reformadores; la importancia de acertar en el diseño de los sistemas de educación comprensivos; el carácter complementario de las reformas sucesivas, y el amplio espacio reservado para la diversidad en la gestión o para la complementariedad entre la acción pública y las decisiones privadas. Simon Schwartzman y Dulce Manzano ponen en guardia, por su parte, contra la búsqueda de rentabilidad política inmediata y de espejismos mediáticos para las políticas educativas, enfatizando el valor de la inversión cognitiva, dado que las políticas de mejora de la calidad más eficientes han resultado ser precisamente aquellas que se han visto guiadas por los avances del conocimiento solvente y mejor contrastado.
9.- EL ESTADO DE BIENESTAR EN EUROPA

DEFINICIONES

A) **Glennerster**: “AQUELLAS ACTIVIDADES DEL ESTADO QUE REDISTRIBUYEN LOS DERECHOS SOBRE LOS ACTIVOS ENTRE LOS HOGARES”

B) **Generalización**: “CONJUNTO DE PRÁCTICAS SOCIALES DIRIGIDAS AL OBJETIVO DE COMPARTIR RIESGOS VITALES, ECONÓMICOS Y DE DOTACIÓN DE RECURSOS Y CAPACIDADES”.

   a. EN ELLAS PARTICIPAN MÚLTIPLES AGENTES SOCIALES E INSTITUCIONALES
   b. IMPERATIVO DE COMPATIBILIDAD CON EL MANTENIMIENTO DE INCENTIVOS PARA LA ACCIÓN, LA INICIATIVA INDIVIDUAL Y EL CRECIMIENTO ECONÓMICO
   c. OBJETIVO COMPLEMENTARIO: DESARROLLO DE LAS CAPACIDADES DE INTERACCIÓN SOCIAL (Capital social).

Finalmente, las mejores prácticas del Estado europeo de bienestar —definido en un sentido amplio y edificado individualmente por cada país, aunque en coordinación con los demás, siguiendo del “Método abierto de coordinación” (diagramas 8 y 9)— apuntan en unos casos a políticas dirigidas hacia grupos específicos y en otros a medidas universalistas; en ocasiones, a la gestión pública directa, y en otros casos a la construcción de seudo-mercados o a la prestación privada, sin que pueda descartarse la marcha atrás en unos procesos en que impera la evaluación *ex post* y la satisfacción percibida por los ciudadanos, como ha ocurrido también con los movimientos de ida y vuelta de las privatizaciones de los servicios públicos, cuando éstas han defraudado las expectativas de mejora anticipadas (Costas, 2007). A la hora de utilizar esta experiencia como herramienta para diseñar políticas de cohesión social en Latinoamérica, la heterogeneidad europea ofrece, pues, un amplio abanico de alternativas.
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ii Las transferencias intergeneracionales tienen profundas implicaciones para el funcionamiento de todo el sistema económico, como demuestran Lee et alia (2006) comparando los casos de EE UU y Taiwan.

iii El modelo de Bloom et alia ((2007) permite analizar conjuntamente el impacto de la elevación de los salarios a lo largo del ciclo vital sobre la propensión al aumento del consumo de ocio (en forma de reducción de la edad de jubilación) —basada en una mayor capacidad de ahorro—, y la elevación de la propensión al consumo derivada de la elevación en la esperanza de vida. El juego de ambas fuerzas proporciona una explicación racional de la tendencia hacia el desequilibrio en la edad de jubilación.

iv Y, por imitación competitiva, en Inglaterra y Canadá, pero no en Europa ni en Japón.

v En España, para el conjunto de la economía, las cifras de CLU correspondientes, a precios constantes, serían 0,66 y 0,58, con una variación del 12 %.

vi Paradójicamente, el control de la desigualdad salarial resulta beneficioso incluso para la aparición de una dinámica de mayor concurrencia en el seno del mercado de trabajo: Véase Lee et alia (2005)

vii En el que Leijonhufvud señala que la larga expansión norteamericana actual se basa en buena medida en el exceso de estímulos monetarios, financieros y fiscales, que inducen al consumidor a gastar “como si no hubiera mañana”, lo que no resulta sostenible.

viii Borghans y Kriechel (2007) verifican que el alto nivel de centralización de la negociación colectiva en Holanda no impide la transmisión de los movimientos diferenciales de la demanda hacia los salarios.
MODERNIZACIÓN Y ESTADO DE BIENESTAR EN ESPAÑA: “LECCIONES” PARA AMÉRICA LATINA.

Álvaro Espina

1.- Modernización y Estado de Bienestar en España

La edificación del Estado de bienestar en España puede enmarcarse dentro de la dinámica del proceso de modernización, de acuerdo con la interpretación que hace de esta última la nueva Sociología económica (Smelser y Swedberg, 2006). El fracaso histórico del primer intento español de modernización contrasta abiertamente con dos casos de éxito de características contrapuestas —el inglés y el alemán— y, todavía más, con la redefinición integral del Estado de Bienestar realizado en Suecia y los países nórdicos antes de mediados del siglo pasado (Espina 2007; en adelante: AE).

Las características diferenciales más sobresalientes del caso español, en comparación con esos otros casos —observadas en forma panorámica desde la segunda mitad del siglo XIX— fueron: la escasez endémica de recursos humanos; la estrategia histórica de bajos salarios —seguida del desbordamiento de las reivindicaciones salariales durante el tardofranquismo—; la anemia fiscal, y el régimen de aislamiento económico. La combinación de todo ello redujo el crecimiento de la demanda y el producto e impidió a la economía aprovechar sus ventajas comparativas, restringiendo el crecimiento de la renta per capita y del empleo (AE, capítulo 2).

El carácter radicalmente antimoderno de aquellas restricciones del sistema económico —al imponerse sobre el resto de los subsistemas sociales— abocó a la incoherencia del primer modelo de modernización español y al raquitismo de las instituciones de protección del primer intento de construcción del Estado de bienestar durante el primer tercio del siglo XX. Sin embargo, su brevedad no impidió que la negociación colectiva y la regulación de los mercados de trabajo llegasen a alcanzar un carácter prácticamente omnicomprensivo durante la II República, contribuyendo a diseminar las formas de organización empresarial y del trabajo más modernas, conocidas a través de las prácticas aplicadas por las multinacionales ferroviarias (AE, cap. 3).
En cambio, la estatalización absoluta del sistema de regulación laboral —pese a su enmascaramiento bajo el disfraz del sindicalismo vertical— hizo del derecho del trabajo un factor de esclerosis económica, convirtiéndolo al mismo tiempo en la principal herramienta de propaganda del régimen franquista. Paradójicamente, el sistema de relaciones industriales acabó funcionando como el mejor y casi único termómetro de su rechazo popular, especialmente durante los años sesenta y setenta. La presión internacional —ejercida de forma considerablemente tolerante por la OIT, en el contexto de la guerra fría— indujo al Régimen a exhibir sus políticas de paternalismo social —estructuradas bajo la modalidad de un sistema de seguridad social estrictamente corporativista— como un sucedáneo de la libertad política (AE, cap. 4).

La reconducción de toda esta estrategia fue la gran tarea de la democracia, tras la Constitución de 1978, cuyo éxito relativo se debe en buena medida a la capacidad para articular un cuadro coherente de interacciones entre el sistema de bienestar social y los sistemas político, económico, jurídico y cultural, para lo cual España contó con la asistencia técnica de las grandes instituciones de cooperación multilateral y con el apoyo inestimable de la monitorización del acercamiento legislativo y la adopción por parte española del acervo normativo de las Comunidades Europeas, llevado a cabo durante la etapa previa y como prerrequisito para la adhesión, que se produjo finalmente en enero de 1986 (AE, cap. 5).

Una herramienta que contribuyó poderosamente a facilitar la coherencia de aquella articulación entre sistemas fue la concertación social neocorporatista, que adoptó inicialmente la forma de políticas de rentas, consensuadas a través de “intercambios” entre el sistema político y el de relaciones industriales, cuyos efectos sobre la evolución del mercado de trabajo fueron considerable y generalmente positivos (AE, cap. 6). Sin embargo, la concertación social no es un proceso lineal, sino que experimenta una serie de vicisitudes, que en el caso de la democracia española se concretan en un primer decenio de elevada densidad neocorporatista; un segundo decenio de interrupción del proceso, con escasa actividad concertadora, y una recuperación de estas prácticas en la etapa más reciente, aunque con un carácter ya mucho más débil y difuso que las del primer decenio. Todo ello coincide con la etapa en que la economía realizó los ajustes para la incorporación al Euro, y se llevó a cabo en un contexto orientado por el “Método Abierto de Coordinación”, practicado en la UE.

Se observan fuertes nexos entre la edificación del Estado de bienestar y la dinámica de la concertación social durante los últimos treinta años. La reforma del sistema de pensiones tuvo un gran protagonismo —y un papel contradictorio—en la dinámica de la concertación
antes y después de la ruptura del decenio intermedio: mientras que la reforma del sistema realizada en 1985 fue aducida por uno de los grandes sindicatos (UGT) como el factor desencadenante de la ruptura del clima de pactos sociales en que se había desenvolvido el primer decenio de la democracia, fue precisamente la reforma de las pensiones realizada en 1995 —tras el “Pacto de Toledo”, interpartidario— la que marcó la vuelta al tripartismo que ha prevalecido con mayor o menor intensidad durante este último decenio. Pero donde el proceso de concertación desempeñó un papel determinante fue en el diseño y la aplicación de las nuevas políticas de mercado de trabajo, empleo y desempleo, estructuradas en una docena de grandes funciones, cuyas líneas de reforma actual siguen las recomendaciones de la OCDE, la “Estrategia europea de empleo” y el consenso implícito que emana de los estudios académicos disponibles (Espina, 2007, cap. 7).

El balance de resultados de los últimos treinta años de edificación del Estado de bienestar en España exige en primer lugar llevar a cabo una evaluación de la influencia de las políticas neocorporatistas sobre el estado de la segmentación social, lo que facilita, además, la interpretación de los procesos de elección social ocurridos en la etapa más reciente, y realizar simulaciones de la situación futura, para lo cual he echado mano del “teorema de la imposibilidad”, de Kenneth Arrow. La reintegración de España a la tarea de unificación europea ha sido condición necesaria, aunque no suficiente, para culminar con éxito este segundo intento modernizador. La comparación del gasto destinado a las principales funciones del Estado de bienestar español con las cifras correspondientes para el conjunto de la Unión —y en los dos grupos de países que ocupan las posiciones extremas (los países nórdicos y los países ex-COMECON)— permite hacer balance del camino realizado hasta aquí y orientar el diagnóstico de las tareas pendientes, en relación a los distintos modelos de políticas de bienestar de la OCDE y la UE, tarea que se ve facilitada por el ejercicio de puesta en común de las “mejores prácticas” del continente, identificadas mediante la estrategia de cooperación y vigilancia mutua “entre iguales” (denominada “método abierto de coordinación”: MAC) institucionalizada dentro de la Unión Europea a comienzos del siglo XXI, que en el ámbito de las políticas sociales se materializa en Planes de acción para la inclusión social (PNAIn) —el último de los cuales para España es el PNAIn 2006-2008— y en materia de pensiones cuenta con orientaciones y objetivos comunes y con Estrategias nacionales de acción, cuyo último informe de síntesis es el de EU-2006 (AE, cap. 8).

Finalmente, el análisis de esa larga secuencia de problemas, éxitos y fracasos puede resultar útil a la hora de diseñar políticas sociales en el hemisferio Latinoamericano, como se
puso de manifiesto en la Conferencia Internacional “Estado de bienestar y competitividad. La experiencia europea y la agenda para América Latina”, celebrada en Madrid los días 26 y 27 de abril de 2007 (Espina, coord., 2007), en la que una versión preliminar de Espina (2007) se utilizó como ponencia-marco (materiales a los que me remito aquí, cuando no menciono otra fuente). Tal experiencia puede sintetizarse en diez grandes “lecciones” (principalmente, de lo que no conviene hacer), y en once “lemas” (AE, “conclusiones”):

2.- “Lecciones” para América Latina:

“Lección” I.- Ninguna práctica institucional resulta transplantable de un país a otro, lo que se aplica muy especialmente a las experiencias y las instituciones del Estado de bienestar, fuertemente condicionadas —aunque no determinadas— por las historias y las trayectorias nacionales. Precisamente por esta razón puede resultar útil para América Latina extraer lecciones de los errores cometidos por países, como España, que comparten muchos rasgos institucionales de una variedad de sistema social que se ha dado en llamar “el modelo latino”.

**LEMA I.- Primera modernización: ¿Modelo Latino?**

Ninguna práctica institucional resulta trasplantable de un sistema social a otro

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<td>-FAMILIARISMO-ESTATALISMO</td>
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<td>Y RESPETAR DERECHOS</td>
<td>-ANÁLAFETISMO MASIVO:</td>
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JURÍDICO (I)

-**LEY CIVIL**
- VOLUNTARISMO LEGISLATIVO
- VOLATILIDAD LEGAL + Reglamentos del Ejecutivo
- MÁXIMA INCERTIDUMBRE

```
SUBSISTEMAS

(EB)

-Cubre fallos de la familia
-Cobertura mínima+empresa
-Tasas de participación mínimas
-Hetero-regulación máxima
-Baja afiliación sindical

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“Lección” II.- *El rasgo más sobresaliente del “modelo latino” es una cierta indiferenciación entre subsistemas sociales y una inclinación cierta hacia el dirigismo ejercido desde el sistema político sobre los otros subsistemas sociales.* Esta indiferenciación resta energía para impulsar el proceso de innovación generalizada y policéntrica en que consiste la modernización, y produce sesgos incompatibles con la orientación general del crecimiento económico moderno (Aghion y Durlauf, 2007), derivados de la propia definición y reglas de funcionamiento del sistema político, como señala el Estudio Preliminar de la Constitución de Cádiz de 1812 y argumenta ahora Douglas North (2005).

**LEMA II.- Rasgos distintivos del “modelo latino”: indiferenciación entre subsistemas y dirigismo político.**

**“Vicios” del sistema político:** populismos, plutocracias, corporativismos y neocorporatismos.

“La experiencia ha demostrado hasta la evidencia que no puede haber libertad ni seguridad, y, por lo mismo, justicia ni prosperidad, en un Estado en donde el ejercicio de toda autoridad está reunido en una sola mano. Su separación es indispensable”.

*Discurso Preliminar de la Constitución de las Españas (Cádiz, 1812).*

“Los gobiernos no son necesariamente una parte desinteresada y altruista en la economía. Tienen incentivos muy fuertes para actuar de forma oportunista..... u otorgar beneficios clientelares. No puede darse por supuesto que los gobiernos diseñen y apliquen reglas de juego que fomenten la actividad productiva.”

*D. C. North (2005)*

En lo que se refiere a Latinoamérica, el examen de lo ocurrido en catorce países entre 1973 y 1997 indica que el tránsito desde los regímenes dictatoriales o populistas hacia regímenes democráticos se produjo en paralelo con una disminución de peso del gasto en los sistemas de seguridad social más propensos a producir transferencias de renta hacia los sectores clientes del poder y con un aumento de los sistemas de bienestar más universalistas, como salud y educación (Kaufman y Segura-Ubiergo, 2001).

“Lección” III.- *El fracaso del primer intento de modernización español se debió también a la incongruencia y el desarrollo desigual entre los diferentes sistemas sociales. La experiencia comparada ayudó a detectar tales inconsistencias y sugirió modos de corregirlas.* La principal incongruencia consistió en el desigual ritmo de modernización entre el sistema...
cultural —cognitivo, de valores, instituciones y creencias— y las prácticas y los sistemas jurídico y económico. Por el contrario, el avance modernizador, para ser sostenido y no entrar en colisión retardataria, ha de producirse simultáneamente en todos los subsistemas.

La experiencia española permite evaluar muy positivamente la aportación a la modernización institucional derivada de la cooperación y la asistencia técnica sucesiva y cada vez más estrecha del Banco Mundial —ya desde el Plan de Estabilización de 1959—, de la OCDE, de la OIT, de la adopción del derecho derivado antes y como prerrequisito para el ingreso en la CE. Estas fases siguieron sucesivamente los modelos de difusión institucional denominados de “presión exterior” y de “imitación normativa dirigida”. En cambio, en la fase actual el “método abierto de coordinación” significa la cooperación entre iguales en el seno de la UE, de acuerdo con el modelo denominado de “aprendizaje racional”, frente a los modelos de difusión que han prevalecido hasta ahora en Latinoamérica (Weyland, 2005).

**LEMA III.- ESPAÑA/UE: del examen de derecho derivado al Método Abierto de Coordinación (MAC).**


MAC* = modelo blando de “aprendizaje racional cooperativo”:

- identificación de métodos de análisis comunes: cognición
- información compartida
- intercambio de experiencias
- emulación de la excelencia (*best practices*)
- fijación de cotas de referencia (*benchmarking*)
- aprendizaje de políticas (*policy learning*)
- contacto entre agentes sociales y políticos
- evaluación común de políticas
- efectos de diseminación.

Nota *.- La cooperación y “vigilancia mutua entre iguales” es el mejor correctivo para la incongruencia y el desarrollo desigual entre los diferentes sistemas sociales. ¿Resulta aplicable a Latinoamérica? Versus modelos de difusión institucional por “presión exterior” o por “imitación normativa dirigida”.

“Lección” IV.- La principal característica distintiva del fracaso histórico español fue la insuficiencia fiscal, que produjo una incapacidad endémica para aplicar políticas de bienestar y condujo a la búsqueda de fuentes espurias de financiación, que dañaron el crecimiento y produjeron inflación. La resolución de este problema fue la primera tarea de la transición democrática y se llevó a cabo a través del consenso interpartidario de los Pactos de la Moncloa.
Esta experiencia permite establecen las cinco grandes prioridades que se sintetizan en el Lema IV (Carbajo, 2007):

**LEMA IV.- ¿Modelo Latino de modernización fiscal?**

| Insuficiencia fiscal = imposibilidad para aplicar políticas de bienestar y cohesión social + fuentes espurias de financiación = menor crecimiento y mayor inflación.

**La experiencia española:**

1. Centralidad del impuesto sobre la renta (income tax), pero sin doctrinarismos
2. Construir un “sistema tributario”: normativa transparente y aplicación efectiva.
3. Vincular los impuestos a políticas públicas con amplio consenso para elevar la acogida social de la reforma tributaria.
4. Dirigir la reforma a ampliar la base tributaria y los sujetos obligados a tributar, más que a aumentar las tasas de los gravámenes.
5. Mejorar los procedimientos para hacer efectivos los tributos y mejorar la administración tributaria, la coordinación, las bases informativa y los registros.

“Lección” V.- La acumulación de recursos humanos constituye el principal motor de desarrollo endógeno. En buena medida el calendario de su retraso en España respecto a los países centrales de Europa es el calendario del atraso en que incurriría el proceso español de modernización (setenta años). El esfuerzo de la etapa democrática española se sintetiza en la duplicación del gasto relativo y el aumento en un 50% del número medio de años de escolarización del conjunto de la población.

En el panorama internacional se distinguen dos modelos de políticas educativas: el “enfoque del capital humano” y el denominado propiamente “modelo de recursos humanos”. El primero, impulsado por las desigualdades salariales, trata la educación como un bien y un recurso privado. El segundo considera la disponibilidad de recursos humanos directamente como un fin de interés colectivo y establece políticas públicas con el fin de garantizar una disponibilidad abundante de los mismos, anticipándose a su demanda y reduciendo la desigualdad. En cambio, el modelo híbrido —con financiación pública y apropiación privada— es el menos eficiente y equitativo. Es conveniente optar claramente entre uno y otro, y, en caso
de optar por el modelo de recursos humanos, establecer mecanismos rigurosos de seguimiento y monitorización de los resultados.

**LEMA V.- Un modelo Latino de recursos humanos, con el liderazgo de la sociedad civil**

**GRÁFICO 2.- ESCOLARIZACIÓN, FISCALIDAD, GASTO PÚBLICO**

“Lección” VI.- El aislacionismo es causa de subdesarrollo y de desigualdad. Esa es probablemente la lección más evidente del fracaso español hasta la llegada de la democracia, y también de los éxitos conseguidos a partir de entonces.

La etapa autárquica —con su correlato de dirigismo económico, aversión hacia el mercado, activismo monetario e intervencionismo sobre el tipo de cambio— registra los peores resultados de la historia económica de la España contemporánea porque impidió aprovechar ventajas comparativas como la disponibilidad de mano de obra abundante y desocupada. Además, las políticas arancelarias arbitristas refuerzan los recursos de poder de los gobiernos dirigistas, subordinando todavía más a los empresarios respecto a los gobiernos, lo que introduce incentivos para que estos orienten su acción hacia la obtención de concesiones y la extracción de rentas monopolistas, en lugar de concentrarse en la concurrencia y la mejora de la eficiencia económica y en la innovación tecnológica y organizativa, que supone siempre un cierto desfase entre la apertura exterior y el equilibrio de la balanza, por lo que tal esfuerzo requiere poyo financiero e inversión externa.
La expansión artificial y el control de la inflación basados en políticas ficticias de estabilización del tipo de cambio favorecen a los gobiernos que buscan la reelección, a las clases medias perceptoras de rentas y a los países dominantes en los intercambios internacionales, pero resultan volátiles, incompatibles con el avance en el proceso de apertura comercial, e impiden seguir una senda de desarrollo autosostenido (Shamis y Way, 2003).

La ortodoxia de la estabilidad forzada de los tipos de cambio, salvaguardada durante varios decenios por el FMI, se ha demostrado profundamente nociva para los países emergentes. El ejemplo español es la mejor prueba contrafactual de lo erróneo de esa política. Durante el primer tercio del siglo XX el sostenimiento de la cotización de la peseta obligó a practicar políticas monetarias draconianas y a adoptar aranceles a los que, con razón o sin ella, se denominó “del hambre”. Con el franquismo el comercio exterior llegó a funcionar en la práctica como comercio de Estado y la política ficticia de estabilidad cambiaria ni siquiera sirvió para controlar la inflación. La destrucción del sistema de incentivos provocó fluctuaciones económicas violentas e innecesarias, distorsionó la asignación de recursos y produjo artificialidad en el funcionamiento de todos los mercados –y, muy especialmente, en los mercados de factores–. Finalmente, también la etapa democrática experimentó una crisis cambiaria aguda —con resultados igualmente nocivos— tras la entrada de la peseta en el
Sistema Monetario Europeo, aunque en este caso la causa fue la voluntad de integrarla en la moneda única, que se estaba diseñando por entonces.

**LEMA VII.- Apertura y tipo de cambio de paridad:**
Las políticas ficticias de estabilización monetaria impiden el crecimiento autosostenido (espejismos electoralistas de aumento de riqueza y shocks).

***GRÁFICO 4.- APERTURA COMERCIO EXTERIOR Y TIPO DE CAMBIO***

“Lección” VIII.- La injerencia de las políticas autoritarias sobre el proceso de negociación colectiva libre de los salarios —aunque satisfaga los intereses inmediatos de los empresarios más ineficientes— resulta a la larga contraproducente y retroalimenta el intervencionismo económico porque elimina los incentivos para la coordinación salarial voluntaria, basada en el avance equilibrado de la productividad, la demanda interna y la inversión productiva.

Las políticas salariales dirigistas no resultan sostenibles en el medio plazo, ni siquiera implantando regímenes políticos apoyados en la represión. El embalsamiento de las demandas de crecimiento salarial durante las etapas represivas produce movimientos convulsivos de la tasa de empleo y —además de su impacto sobre la desigualdad— resulta perverso en otros tres sentidos:

1. Provoca reacciones desmesuradas y dinámicas de desbordamiento irrefrenables.
2. Desaprovecha el impulso paulatino de la demanda sobre el crecimiento, y provoca desequilibrios en las proporciones relativas de los factores utilizados por las empresas,
que resultan obsoletas, ineficientes e insostenibles, agudizando el impacto de los inevitables shocks externos, al producirse la apertura ulterior.

3. Todo ello elimina las señales provenientes del mercado internacional y desresponsabiliza a los agentes negociadores de los salarios de la marcha de los equilibrios económicos, que acaban recayendo sobre los gobiernos. En cambio, en los pequeños países europeos de la antigua EFTA, los interlocutores sociales asumen la coordinación y la autocontención salarial como tarea propia (Danthine y Hunt, 1994).

**LEMA VIII.- Futilidad de las políticas de rama torcida:**
Crecimiento “a tirones”; distorsiona uso de factores; desresponsabiliza a los agentes.

**GRÁFICO 5A: SALARIOS REALES EN ESPAÑA Y REINO UNIDO**

**“Lección” IX.-** La senda española para superar la mayor crisis de empleo experimentada por un país occidental en los últimos treinta años es la coordinación neocorporatista del crecimiento de los salarios con las políticas macroeconómicas y la administración responsable de las diferencias salariales llevada a cabo de forma autónoma por los interlocutores sociales, a través de la negociación colectiva. Ello presupone la presencia activa del Estado en el establecimiento y la promoción del ejercicio práctico de los derechos de asociación y acción colectiva y, generalmente también, el impulso de la concertación social a través de alguna forma de intercambio político entre moderación salarial y las prestaciones sociales del Estado de bienestar. En la Europa de la segunda posguerra estas políticas fueron impulsadas sobre todo por los gobiernos socialdemócratas y centristas. En cambio, los
gobiernos conservadores suelen preferir mecanismos salariales completamente descentralizados, por su temor a las negociaciones sectoriales, ya que ha existido un amplio consenso analítico acerca de una cierta relación “parabólica” entre nivel de centralización salarial y eficiencia económica. Sin embargo, en esto, la España democrática es una excepción, ya que la concertación ha superado razonablemente bien el turno político y no se percibe tal relación negativa, sino que presenta características de los sistemas más eficientes:

CUADRO 1.- Bajos salarios, dispersión salarial, salario mínimo y características de la negociación colectiva en España (1995) vi

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LEMA IX.- Rama torcida *versus* coordinación salarial:
Paralelismo entre salarios, productividad y dotación de capital; ajuste endógeno vía empleo

GRÁFICO 5B.- SALARIOS, EMPLEO, PRODUCTIVIDAD Y CAPITAL
La administración responsable de la desigualdad salarial se relaciona con la otra gran singularidad del caso español, que consiste en medir la audiencia sindical, no a través de la afiliación, sino mediante elecciones periódicas a órganos unitarios de representación de los trabajadores en la empresa —tuteladas por la autoridad laboral—, lo que facilita que con muy baja afiliación sindical exista una legitimidad incontestable de la representación y un control directo de los representantes, con periodicidad no superior a cuatro años.

“Lección” X.- Las políticas neocorporatistas no se agotan pero cambian de signo a medida que madura el Estado de Bienestar, pasando de dirigirse prioritariamente hacia los insiders a convertirse paulatinamente en políticas erga omnes, de alcance universalista, que pueden contar igualmente con la anuencia de los interlocutores sociales.

LEMA X.- POLÍTICAS DE EMPLEO, DESEMPLEO Y MERCADO DE TRABAJO

RELACIÓN DE SUSTITUCIÓN ENTRE POLÍTICAS:

1. LEGISLACIÓN PROTECTORA DEL EMPLEO:
   Repliegue del paternalismo autoritario; flexi-seguridad; ¿segmentación?

2. SISTEMA DE PROTECCIÓN DEL DESEMPLEO:
   Externalización de los costes de ajuste para las empresas: prestación-seguro + subsidios al desempleo de larga duración (modulación MT).

3. SERVICIOS DE BÚSQUEDA DE EMPLEO:
   Es la política más eficiente y económica. Complementariedad público-privada. Hacia mercados de trabajo transicionales

4. LA ACTIVACIÓN DE LAS POLÍTICAS DE EMPLEO
   Reconvertir fondos de protección en recursos para políticas activas:
   I. Inserción, cualificación y actualización profesional
   II. Políticas compensatorias para grupos desventajados
   III. Subvenciones al empleo de baja cualificación
   IV. Iniciativas de empleo y desarrollo endógeno de sistemas locales

En muchos países de América Latina las políticas de protección social se encuentran en la fase naciente del Estado de Bienestar, por lo que existen todavía oportunidades para ensayar políticas de concertación social como las descritas. Sin embargo, debe prestarse atención a la aparición de problemas de segmentación, para prevenirlas y corregirlas. Las políticas óptimas contra la segmentación se enmarcan dentro del modelo de Estado de Bienestar universalista, recomendado por Lord Beveridge. Además, las formas tradicionales de regulación del mercado de trabajo producen desempleo.


CUADRO 2.- GASTO TOTAL DEL ESTADO DE BIENESTAR EN % DEL PIB: UE-25 POR GRUPOS DE PAÍSES (AÑO 2003)*

<table>
<thead>
<tr>
<th>PP. Nórdicos</th>
<th>UE-25</th>
<th>España</th>
<th>Ex-Comecon</th>
</tr>
</thead>
<tbody>
<tr>
<td><strong>SALUD/ENFERMEDAD</strong></td>
<td>7.2</td>
<td>7.7</td>
<td>6.0</td>
</tr>
<tr>
<td><strong>INCAPACIDAD</strong></td>
<td>4.1</td>
<td>2.2</td>
<td>1.5</td>
</tr>
<tr>
<td><strong>VEJEZ</strong></td>
<td>11.0</td>
<td>11.3</td>
<td>8.2</td>
</tr>
<tr>
<td><strong>SUPERVIVENCIA</strong></td>
<td>0.6</td>
<td>1.3</td>
<td>0.6</td>
</tr>
<tr>
<td><strong>FAMILIA/HIJOS</strong></td>
<td>3.4</td>
<td>2.2</td>
<td><strong>0.7</strong></td>
</tr>
<tr>
<td><strong>DESEMPLEO</strong></td>
<td>2.5</td>
<td>1.8</td>
<td>2.6</td>
</tr>
<tr>
<td><strong>VIVIENDA</strong></td>
<td></td>
<td></td>
<td></td>
</tr>
<tr>
<td>PP. Activas</td>
<td>1.1</td>
<td>0.5</td>
<td>0.6</td>
</tr>
<tr>
<td>PP. Pasivas</td>
<td>2.0</td>
<td><strong>1.1</strong></td>
<td><strong>1.5</strong></td>
</tr>
<tr>
<td><strong>EXCLUSIÓN SOCIAL</strong></td>
<td>0.5</td>
<td>0.5</td>
<td>0.2</td>
</tr>
<tr>
<td><strong>RECURSOS HUMANOS</strong></td>
<td>7.4</td>
<td>5.2</td>
<td><strong>4.3</strong></td>
</tr>
<tr>
<td><strong>TOTAL GASTO EN ESTADO DE BIENESTAR:</strong></td>
<td><strong>37.6</strong></td>
<td><strong>32.6</strong></td>
<td><strong>24.2</strong></td>
</tr>
</tbody>
</table>


---

**LEMA XI.- Estado de bienestar y neocorporatismo**

Necesidad de guardar el equilibrio entre dos procesos:
1. **PACTO SOCIAL Y ESTADO DE BIENESTAR**
   A) **VENTAJAS**
   I. La concertación optimiza la aceptación de las políticas
   II. Requiere políticas de institucionalización de los agentes sociales
   III. Maximiza la cooperación interclasista y genera capital social
   B) **INCONVENIENTES**
   I. Propensión hacia la segmentación *insiders-outsiders*
   II. Consume tiempo; frena reacción frente a *shocks*; es incierto (1988-96)
   III. ¿Neocorporatismo *versus* innovación? (Phelps vs. Leijonhufvud)
2. **ESTADO DE BIENESTAR UNIVERSALISTA. 4 Pilares:**
Además, las políticas sociales más efectivas y que producen resultados con mayor impacto a largo plazo sobre el bienestar de la población son las que implican inversión en capital humano. Principalmente: sanidad, educación e inversión en la infancia. Esas son también las políticas que deben profundizarse en España, a la vista de la situación del gasto total en políticas de bienestar, en relación con las pautas de “mejores prácticas” europeas, como se observa en el cuadro 2.

Bibliografía

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- Espina, Álvaro (coord.) (2007), *Estado de Bienestar y competitividad: La experiencia europea*, Fundación Carolina/Siglo XXI.


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El modelo de Rodríguez-Clare (2007) evalúa el impacto de la apertura comercial sobre el intercambio, la difusión de ideas y la modernización (no sólo económica).

Véase Rafael La Porta, Florencio Lopez-de-Silanes et al. (2007), que sintetiza sus trabajos sobre la relevancia económica de los sistemas jurídicos, diferenciados por el origen de cada sistema legal.

Una interpretación completa de los factores que contribuyeron a este éxito debe contemplar la influencia del proceso de globalización sobre la dinámica hacia la democracia —y viceversa—. Eichengreen y Leblang (2006), revisan la literatura y la evidencia disponible acerca de esta relación recíproca, que tuvo sin embargo un amplio período de excepción durante la era de Bretton Woods. El caso de España fue un adelantado de la recuperación de este nexo histórico.

En cambio, en el sistema social norteamericano se registra la propensión a la injerencia de signo contrapuesto, en la que el sistema económico es el que tiende a apoderarse del sistema político. Graham Sumner vaticinó que esa sería la mayor amenaza para EE UU en el siglo XX. Bombardini et alia (2007) comprueban ahora acertado de aquel vaticinio.

El control escrupuloso del salario mínimo resulta crucial en contextos de elevado desempleo de los trabajadores de baja cualificación, ya que existe un amplio consenso analítico acerca del efecto nocivo de la elevación del salario mínimo sobre el desempleo de este grupo de trabajadores (Neumark et al., 2006).

Aunque el aseguramiento del riesgo salarial no sólo beneficia a los insiders, sino que contribuye también al aumento del bienestar general. Véase Heathcote et al. (2007).

Para un inventario de las instituciones laborales que producen desempleo (y, viceversa, para evaluar los cambios institucionales que contribuyen a su reducción, véase Nickell et al. (2005).

Que deberían permitir a la larga reducir la dependencia del mercado de trabajo de la oferta proveniente de la inmigración, cuyo suministro depende principalmente de los shocks demográficos de los países de emisión y de las “cadenas de inmigración” que de sus propias necesidades, como muestra el trabajo de Gordon y McIntosh (2007).

Aunque resulta difícil de medir, la inversión diferencial en sanidad produce resultados positivos en términos de esperanza de vida. Doyle (2007) utiliza un mecanismo ingenioso para salvar los obstáculos de selección adversa y comprobar el rendimiento en términos de salud de la población beneficiaria imputable estrictamente a la inversión sanitaria.
INFLACIÓN, SALARIOS Y EMPLEO

Álvaro Espina*

LA FORMACIÓN DEL CONSENSO EN POLÍTICA ECONÓMICA: EL CASO DE LOS PACTOS DE LA MONCLOA

V Seminario Ernest Lluch de Economía
Universidad de Barcelona, 18/XII/2007

* Editado y desarrollado a partir del capítulo 6.1 de: Modernización y Estado de Bienestar en España, Fundación Carolina / Siglo XXI
A) LA NEGOCIACIÓN COLECTIVA ANTES DE LOS PACTO DE LA MONCLOA

Denominando:

\( \{Y\} = \text{Producto}; \quad \{E\} = \text{Empleo}; \quad \{w\} = \text{salario}; \quad \{y\} = \text{Productividad por empleado}; \quad \{c\} = \text{Coste laboral unitario}; \quad \{\pi\} = \text{Precios}; \quad \{t\} = \text{subíndice para el año actual}; \quad \{*\} = \text{superíndice para las variables esperadas en año actual}; \quad \{n\} \)

subíndice para los salarios negociados en convenios, y \( \{e\} = \text{subíndice para las variables computadas en cada empresa particular.} \)

Nuestro punto de partida son dos identidades:

\[ [1] \quad y = \frac{Y}{E}; \quad c = E \cdot \frac{w}{Y} = \frac{w}{y}; \]

Denotando con notación subrayada las tasas logarítmicas de crecimiento, y empleando la aproximación matemática tenemos la tercera identidad:

\[ [2] \quad c = w - y \]

A lo largo de los años sesenta y setenta la negociación colectiva determinaba los salarios añadiendo a la inflación de diciembre del año anterior la tasa de crecimiento de la productividad agregada del trienio precedente (pauta: \textit{backward-looking macro})

\[ [3] \quad w_n = \pi_{t-1} + \sum_{3t-1} \]

El resultado de esta pauta de negociación fue la escalada de crecimiento de los precios que se observa en el ramal ascendente a la izquierda del gráfico adjunto:

GRÁFICO 24.- PRECIOS, CLU Y SUS COMPONENTES
EN PROMEDIOS TRIANUALES: 1967-2006
B) LOS PACTOS DE LA MONCLOA

Substituyeron los precios del año anterior por los previstos en media para el año siguiente, no mencionando de forma expresa la productividad (aunque la banda de negociación para “antigüedad y ascensos” y el criterio de “masa salarial bruta” dejaba abierta la interpretación de que se adoptó una pauta forward-looking macro:

\[ w_n = \pi^* + (\Sigma^*) \]

Las precondiciones para esta nueva pauta de determinación de los salarios negociados se apoyaron en un amplio consenso cognitivo en torno a:

- La reforma fiscal Fuentes/F-O hizo creíble la política de desinflación.
- La “Curva de Phillips aumentada” (CPA) de Edmund Phelps indicaba el impacto de las expectativas adaptables (versus CPS y expectativas racionales) y los problemas de información (precios → demanda; salario → bienestar).

GRÁFICO 25.- Curva de Phillips Aumentada

Las tasas de crecimiento en pesetas corrientes (%)

La política monetaria acomodaticia quedaba condicionada a pactos salariales y de inflation-target. (L. A. Rojo: Renta, precios y balanza de pagos. 1974).

En ausencia de coordinación entre negociación salarial y política macroeconómica, la política monetaria debía seguir la “regla de Taylor”\[i\].

De hecho, tras recuperar su posición activa, eso ocurriría entre 1987 y 1990:
El principal problema pendiente tras los Pactos de la Moncloa era que la \( y^* \) macro \( ex \ ante \) constituye una profecía autocumplida \( ex \ post \) (al elevar la relación capital/trabajo, reduciendo la propensión hacia la creación de empleo). Esto resultaba también inflacionista porque:

- En tiempo de recesión arrastra el efecto composición.
- La convergencia reduce la productividad total de los factores del país seguidor (reducción \( ex \ post \) muy difícil de anticipar).
- El efecto oil-shock (achatarramiento de capital útil) reduce \( y \)

Todo ello se refleja en la evolución de las productividades de los dos factores durante los cuatro últimos decenios:

**PRODUCTIVIDAD EN EL SECTOR COMERCIALIZADO DE LA ECONOMÍA (tasas anuales de variación en %)**

<table>
<thead>
<tr>
<th></th>
<th></th>
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<th></th>
<th></th>
<th></th>
<th></th>
<th></th>
<th></th>
</tr>
</thead>
<tbody>
<tr>
<td>ESPAÑA</td>
<td>5,4</td>
<td>3,3</td>
<td>1,6</td>
<td>0,7</td>
<td>-0,6</td>
<td>-2,6</td>
<td>-1,3</td>
<td>-0,5</td>
</tr>
<tr>
<td>Zona EURO</td>
<td>3,4</td>
<td>2,5</td>
<td>2,0</td>
<td>0,9</td>
<td>-2,1</td>
<td>-1,2</td>
<td>-0,7</td>
<td>-0,6</td>
</tr>
<tr>
<td>OCDE</td>
<td>2,8</td>
<td>2,0</td>
<td>1,7</td>
<td>1,9</td>
<td>-1,5</td>
<td>-0,5</td>
<td>-0,2</td>
<td>-0,2</td>
</tr>
<tr>
<td>EEUU</td>
<td>1,6</td>
<td>1,2</td>
<td>1,3</td>
<td>2,6</td>
<td>-1,0</td>
<td>0,2</td>
<td>0,8</td>
<td>0,8</td>
</tr>
</tbody>
</table>
C) El multiplicador Freund-Manchesterd: o el efecto del cambio en la tendencia de crecimiento de la productividad sobre la inflación

\[ w_t = \alpha + \beta \pi_{t-1} + \gamma y_{t-1} + \delta u_t \]

Suponiendo que \( w_t = c_t = w_t - y_t \):

\[ \pi_t = -y_t + \alpha + \beta \pi_{t-1} + \gamma y_{t-1} + \delta u_t \]

y como \( \pi_{t-1} = w_{t-1} - y_{t-1} \)

Substituyendo:

\[ \pi_t = -y_t + \alpha + \beta (w_{t-1} - y_{t-1}) + \gamma y_{t-1} + \delta u_t = \alpha - y_t + (\beta - \gamma) y_{t-1} + \beta w_{t-1} + \delta u_t \]

substituyendo, a su vez, \( w_{t-1}, \pi_{t-2}, w_{t-2}, \pi_{t-3} \):

\[ \pi_t = \alpha + \delta u_t - y_t + (\beta - \gamma) \sum_{j=1}^{n} \beta^{j-1} y_{t-j} \]

Denominando \( X_n = \Delta y_t = \Delta y_{t-1} = \Delta y_{t-2} = \ldots = \Delta y_{t-n} \)

Siendo \( \Delta \pi_{tn} \) la inflación derivada exclusivamente de \( X_n \) (sin cambios en \( u_t \)):

\[ \Delta \pi_{tn} = -1 + (\beta - \gamma) \sum_{j=1}^{n} \beta^{j-1} X_n \]

Denominando \( M = \Delta \pi_t / \Delta y_t = (\pi_t - \pi_{t-1}) / (y_t - y_{t-1}) \),

\[ M_n = \Delta \pi_{tn} / X_n = -1 + (\beta - \gamma) \sum_{j=1}^{n} \beta^{j-1} X_n \]

Y suponiendo que la desaceleración de la productividad es permanente (\( n \rightarrow \infty \))

\[ M = -1 + (\gamma - \beta) / (1 - \beta) \]

(siempre que \( \beta < 1 \))

En el caso español durante el período 1965-1977 (aunque ninguno de estos coeficientes es significativo):

\[ \pi_t = 4,54 + 0,8 \pi_{t-1} + 0,47 y_{t-1} + 1,18 u_t \]

\[ M = -1 + (0,47 - 0,8) / (1 - 0,8) = -2,6 \]

De modo que una caída tendencial de tres puntos en la tasa de crecimiento de la productividad, como la registrada en España durante los años setenta se convierte en un aumento de la inflación de 7,8 puntos (y viceversa, si se produce un aumento, o la productividad no se transmite a salarios):

\[ \Delta \pi_{tn} = M_n \times X_n = -2,6 \times 3 = 7,8 \]

El modelo ratifica el carácter netamente inflacionista de la adopción de pautas de determinación de los salarios basadas en indicadores macroeconómicos de productividad. Por otra parte, la participación salarial en las mejoras de eficiencia empresarial a escala microeconómica constituye un prerrequisito para la estabilidad del sistema de negociación y para el funcionamiento eficiente de la economía a escala macro. El problema sería abordado enseguida por el AMI:
D) MODELO AMI EX ANTE

\[ w_n = \pi^* + y_{te} \]  
(form forward looking macro-micro)

E) MODELO AMI CON CLÁUSULA DE REVISIÓN (EX POST)

Denotando con el subíndice \( \{t-12m\} \) la tasa de inflación de diciembre del año \( t \)

\[ w_n = \pi^* + (\pi_{t-12m} - \pi^*) + y_{te} = \pi_t + y_{te} \] (siempre que \( \pi_{t-12m} > \pi^* \))

En la práctica, entre 1979 y 1985 se interrumpió la transmisión de \( y \), lo que permitió completar el ajuste (revirtiendo lo ocurrido entre 1969 y 1977):

\[ w_t = \pi_t \rightarrow c_{te} = w_{te} - y_{te} \rightarrow c_t < \pi_t \]


\[ w_n = \pi^* + (\pi_t - \pi^*) + y_{te} = \pi_t + y_{te} \]

Desde el Acuerdo de Negociación Colectiva de 2001 (ex post):

\[ w_n = \pi^* + (\pi_{t-12m} - \pi^*) + y^* = \pi_t + y^* \] (siempre que \( \pi_{t-12m} > \pi^* \))

adoptando la \( y^* \) prevista en los PP. GG. del Estado (para 2007: \( y^* = 0,7\% \))

Problema: al aumentar la volatilidad intra-anual de la inflación \( (\pi_t \approx \pi_{t-12m}) \) la cláusula de revisión puede resultar inflacionista si \( (\pi_t - \pi^*) < (\pi_{t-12m} - \pi^*) \)

GRÁFICO 28.- SALARIOS Y MODELOS DE NEGOCIACIÓN
F) LOS RESULTADOS:
El movimiento de tijeras productividad/empleo y la nueva curva de Phillips

GRÁFICO 23.- EMPLEO, SALARIOS Y PRODUCTIVIDAD
EN PROMEDIOS TRIANUALES: 1964-2006

GRÁFICO 26.- Salarios y desempleo
Tasas de crecimiento anual a precios corrientes (%)
G) CONCLUSIÓN: TRES FASES EN EL PROCESO DE NEGOCIACIÓN DE LOS SALARIOS. 1965-2007:

Período 1965-1977:
[20] \[ w_t = \alpha + \beta \pi_{t-1} + \gamma y_{3t-1} + \delta u_t \]

Período 1978-1985
[21] \[ w_t = \alpha + \beta \pi_{t} + \delta u_t \]

Período 1986-2007
[22] \[ w_t = \alpha + \beta \pi_{t} + \gamma y_{t} + \delta u_t \] (Blanchard y Muet, 1983)

Coeficientes (1978-2007):
\[ \alpha = 0.33; \beta = 1.15; \gamma = 1.06; \delta = -0.06 \]
\[ r^2 = 0.91 \]
\( (t = 0.2) \hspace{1cm} (t = 15.8) \hspace{1cm} (t = 2.1) \hspace{1cm} (t = -0.8) \]

Hall (2005) ha observado los cambios en el comportamiento de desempleo durante las ciclos del último medio siglo, completando el trabajo de Phelps: la tasa voluntaria de abandonos apenas fluctúa; los salarios son rígidos, y el desempleo crece porque en las recesiones no se crea empleo. El modelo de Gertler y Trigari (2006) introduce la negociación salarial multiperíodo en los “contratos zigzagueantes” (de Taylor), lo que permite explicar el impacto de los salarios sobre el empleo a través del margen extensivo.

Curva de Phillips neokeynesiana (NKPC):

\[ [23] \pi_t = \lambda \hat{s}_t + \beta E_t[\pi_{t+1}] \] (J. Galí y M. Gertler, 1999)

En donde: \[ \hat{s}_t \approx \xi_t - \pi_t = w_t - y_t - \pi_t \] \( \approx \pi^* \), de modo que

\[ [24] \pi_t \approx \lambda (w_t - y_t - \pi_t) + \beta \pi^*, \]

y simplificando:

\[ [25] \pi_t \approx \zeta \pi^* + \eta (w_t - y_t) \]

en donde: \[ \zeta = \beta / (\lambda + 1); \eta = \lambda / (\lambda + 1) \]

Y como \[ \pi^* \] no es otra cosa que la expectativa de \[ \xi_t \]:

\[ [26] \pi_t \approx \xi_t + \varepsilon \approx (w_t - y_t) + \varepsilon \]

En España el proceso de inflación-desinflación responde a este modelo:
De modo que, mientras existió la peseta, la política monetaria pudo orientarse mediante la combinación de la nueva curva de Phillips con la curva de Okun:

**GRÁFICO 30.- CURVA DE OKUN (ESPAÑA)**

*Tasa de desempleo (%)*

*Utilización de capacidad industrial (%)*

**GRÁFICO 29.- ESPAÑA: CURVA DE PHILLIPS NEOKEYNESIANA**

Tasas anuales de variación en %

*Estadístico t = 19.7*
Algo similar ocurrió en el conjunto de la Zona euro (Espina, 2005):

**CURVA DE PHILLIPS NEOKEYNESIANA ZONA EURO**

1971-2007: TASA ANUALES DE VARIACIÓN EN %

![Diagrama de Phillips Neokeynesiana Zona Euro](image)

* Estadístico t = 15,1

Sin embargo, la curva de Okun en la eurozona resulta todavía hoy muy imperfecta, porque la aparición de un modelo económico integrado tardará tiempo en producirse:


![Diagrama Ley de Okun Eurozona](image)

De ahí que la política monetaria no resulte necesariamente óptima para España, por lo que la coordinación salarial interior adquiere una importancia redoblada.
REFERENCIAS


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\[i\] El modelo de Phelps contemplaba todavía como una restricción a la vigencia de la curva de Phillips ampliada la rigidez o resistencia de los salarios nominales a la baja. Elsby (2006) encuentra evidencia de que tal rigidez se ve compensada por una compresión “precautoria” de los aumentos salariales, que limita tanto los costes de aquella rigidez para las empresas como sus efectos macroeconómicos. Esto explica que la nueva curva haya soportado bien el proceso de desinflación y la estabilidad de precios.

\[ii\] Como explica el propio Taylor (2007), su regla es mucho más que una receta simple para la política monetaria porque sintetiza lo mejor de la historia de la macroeconomía. Véanse también las intervenciones de Benn S. Bernanke y Donald L. Kohn (reproducidas en los Background papers de este mismo CD-85) en el simposio celebrado en su honor en Dallas en Octubre de 2007. El resto de comparecencias y discursos ofrecidos por el Presidente y Vicepresidente de la Fed durante el pasado semestre (recogidas también aquí) constituyen una híbrido entre el elogio de la regla de Taylor y la
exculpación encubierta por no haberla empleado para dirigir la política monetaria del pasado decenio (aunque acogiéndose a ella), generando así la mayor burbuja mundial de activos desde la depresión de 1929.

iii El modelo de Dew-Becker y Gordon (2005) explica la transmisión hacia el aumento de la inflación de la desaceleración de la productividad registrada en EE UU entre 1965 y 1980, conjuntamente con el descenso de aquella derivado de la elevación del crecimiento de la productividad del decenio 1995-2005. Con la peculiaridad de que en este modelo el multiplicador es unitario. El modelo es un buen ejemplo de la traslación del juego macro-micro operada durante los dos últimos decenios del siglo XX (prefigurada ya en los fundamentos microeconómicos de la macroeconomía neokeynesiana, diseñada por Phelps): como ya señalara Peter Hall, antes, el empleo se consideraba responsabilidad de las políticas macroeconómicas y la inflación de las microeconómicas. Al final del siglo, la política macroeconómica es responsable de la inflación, mientras que el empleo responde al juego de las fuerzas microeconómicas. Para un análisis del impacto macroeconómico de las políticas microeconómicas implícitas en las prácticas de gestión de los recursos humanos de las empresas, véase Lazear et al. (2007a). Los mismos autores analizan las implicaciones de la estructura y las desigualdades salariales sobre la movilidad, la productividad y la eficiencia Lazear et al. (2007b).

iv Y Gali, Gertler y López-Salido (2005). En la estimación final del primer trabajo se emplea una función simplificada [que lleva el nº 12] en la que \( s_t \) es el crecimiento del coste marginal real (relacionado, obviamente, con el output gap), que los autores aproximan a través de la participación del coste del trabajo en el producto, equivalente a nuestros costes laborales unitarios \( c = w/p \) pero reales, o sea, corregidos con el deflactor del PIB. La inflación esperada está representada aquí por la variable \( E_t \left[ \pi_{t+1} \right] \), que equivale en nuestra notación a \( \pi^* \), referida esta última al periodo t-1, que es cuando se lleva a cabo la negociación. Este desfase se explica porque aquel modelo se refiere al estudio del caso norteamericano, en donde la fijación de salarios resulta atomística y no cuenta con un periodo previo de negociación, de modo que lo que en la función simplificada de Galí et alia aparece como diferencia entre \( \pi_t \) y \( \pi_{t+1} \) equivale en nuestra notación a la diferencia entre \( \pi^* \) ex ante y \( \pi^* \). En [26], la curva de Phillips simplificada incluye el término de error \( \varepsilon \).

v En Espina (2005) comprobé que el fenómeno es común a las tres grandes áreas del G3. Contra la aseveración precipitada de Alan Greenspan atribuyendo a la globalización efectos casi-taumatúrgicos sobre la inflación, Ball (2006) demuestra con gran contundencia que el efecto de los precios de los productos importados sobre la inflación interna en EE UU es poco apreciable y que el funcionamiento de la Curva de Phillips Neokeynesiana sigue plenamente vigente, así como la relevancia de la política monetaria. Rose (2006) imputa a las políticas de fijación nacional de objetivos de inflación la aparición de un sistema monetario internacional estable (un Bretton Woods, pero edificado de abajo arriba).
Greenspan Absolves Himself

By Frank Shostak


Now that Alan Greenspan is no longer the Fed chairman, some financial commentators are daring to suggest that perhaps the present financial crisis is the result of the extremely low interest rate policy of Greenspan's Fed between December 2000 to June 2004 that fueled the housing bubble.

Is there are basis for believing this? Well, the federal funds rate was lowered from 6.5% in December 2000 to 1% by June 2003. It was kept at 1% until June 2004 when the rate was raised by 0.25%. The yearly rate of growth of the S&P-Case-Shiller house price index jumped to 20.5% by July 2004 while the average growth of this house price index during 2005 stood at 17%.

According to Greenspan, the Fed doesn't have much control over long-term interest rates.

For instance, according to Greenspan, between June 2004 and June 2005 the Fed had embarked on a tighter interest-rate stance. The federal funds rate target was lifted from 1% in June 2004 to 3.25% by June 2005. Yet despite this tighter stance the yield on the 10-year T-Note fell from 4.58% in June 2004 to 3.92% by June 2005. As a result of this, the 30-year fixed-mortgage rate fell from 5.75% in June 2004 to 5.58% in June 2005.

So, there we have the data but what about the cause and effect? In an interview on October 21, 2007 the former Fed chairman rejected the view that his loose monetary policies might have been the source of the current financial markets' instability. Greenspan argued that it is extremely low long-term interest rates, which depressed mortgage rates, that were the major cause of the housing bubble.
As one can see, long-term interest rates and mortgage interest rates fell while the Fed was tightening its stance. So, asks Greenspan, how in the world can the Fed be blamed for the housing bubble and the current financial crisis?

According to Greenspan, since the Fed doesn't control long-term interest rates it therefore cannot be seen as the cause behind the present financial-market turmoil. The market, not the Fed, is to be blamed for the current crisis.

We suggest that, contrary to Greenspan, it is not long-term rates as such that fueled the bubble but the monetary pumping by the Fed. It is the monetary pumping that depressed the long-term rates and triggered the housing bubble.

We suspect that, because of the aggressive lowering of interest rates between December 2000 and June 2003, the Fed had pushed the federal funds rate target below where market conditions would have dictated. This means that to prevent the federal funds rate from overshooting the target, the US central bank had to aggressively push money into the economy.

The yearly rate of growth of monetary pumping, as depicted by the Fed's balance sheet (also known as Fed Credit) jumped from negative 2.7% in December 2000 to 9.8% as of June 2003. At one stage in September 2001, the yearly rate of growth climbed to 12.2%.

The possibility that the federal funds rate target was far too low is also "supported" by the Taylor Rule. According to the Taylor Rule, in May 2004, the target was below the so-called "correct" rate by 2.3%.

In response to this pumping, we suggest that the yield on the 10-year treasury note fell from 5.11% in December 2000 to 3.5% by June 2003. During that period the 30-year fixed-mortgage interest rate fell from 7.38% to 5.23%.

What about the discrepancy between short-term and long-term interest rates during June 2004 and June 2005, which Greenspan presents as the case to absolve himself from current financial instability?
Historically, the 30-year fixed-mortgage rate and the federal funds rate have had a tendency to display a very good visual correlation. This doesn't mean that the correlation is perfect; a discrepancy in the movements between the federal funds rate and long-term rates can occur. The emergence of a discrepancy doesn't imply however that, all of a sudden, the Fed's policies have nothing to do with the housing bubble and boom-bust cycles.

Various discrepancies between the movement in the federal funds rate and the mortgage rate are due to a time-lag effect from changes in monetary policy and economic activity.

Because of the time lag, a situation could emerge that long-term rates could ease, notwithstanding the central bank's tighter interest-rate stance. Despite a tighter interest-rate stance, the past loose interest-rate stance may still dominate economic activity.

Hence, despite a tighter interest-rate stance, the federal funds rate target could still be too low. In order, then, to prevent the federal funds rate from overshooting the target, the Fed may be forced to push more money into the economy. As a result, more money becomes available for financial and bond markets, which puts downward pressure on long-term rates.

So while Greenspan is correct that the Fed does not directly manage long-term rates, it remains true that a main influence on long-term rates is that quantity of money and credit in the economy, a variable that the Fed can directly control through its management of short-term rates. To say otherwise is like claiming that bathroom flood isn't your fault, since you only control the faucet, not the height of the water in the tub.

In November 2004, the yearly rate of growth of Fed's credit (Fed's balance sheet) jumped to 7.2% from 4.5% in June 2004. Note that this increase in the pace of monetary pumping took place while the federal funds rate target was lifted from 1% in June to 2% in November. Also note that between December 2004 and June 2005, the average yearly rate of growth of Fed Credit stood at a still elevated 6.2%. (The economic activity was gaining strength from June 2004 to June 2005 - the yearly rate of growth of industrial production climbed from 2.5% in June 2004 to 4.2% by June 2005.)

We can thus conclude that the current financial-market instability is more than likely to be the product of the policies of Greenspan's Fed. We also suggest that, contrary to Greenspan, a bubble cannot emerge without a preceding increase in monetary pumping by the central bank.
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Chairman Frank, Ranking Member Bachus, and members of the Committee, I am pleased to appear before you to discuss the origins of the problems in the subprime-mortgage market and the response of the Federal Reserve to these developments. I will also discuss some possible legislative options for addressing these concerns.

Recent Developments in the Subprime-Mortgage Sector

Let me begin with some background on the subprime-mortgage sector. Subprime mortgages are loans intended for borrowers who are perceived to have high credit risk. Although these mortgages emerged on the financial landscape more than two decades ago, they did not begin to expand significantly until the mid-1990s. The expansion was fueled by innovations--including the development of credit scoring--that made it easier for lenders to assess and price risks. In addition, regulatory changes and the ongoing growth of the secondary mortgage market increased the ability of lenders, who once typically held mortgages on their books until the loans were repaid, to sell many mortgages to various intermediaries, or "securitizers." The securitizers in turn pooled large numbers of mortgages and sold the rights to the resulting cash flows to investors, often as components of structured securities. This "originate-to-distribute" model gave lenders (and, thus, mortgage borrowers) greater access to capital markets, lowered transaction costs, and allowed risk to be shared more widely. The resulting increase in the supply of mortgage credit likely contributed to the rise in the homeownership rate from 64 percent in 1994 to about 68 percent now--with minority households and households from lower-income census tracts recording some of the largest gains in percentage terms.

However, for all its considerable benefits, the broadening of access to mortgage credit that has occurred during the past decade also had important negative aspects. Not surprisingly, given their weaker credit histories and financial conditions, subprime borrowers default on their loans more frequently than prime borrowers. The consequences of default may be severe for homeowners, who face the possibility of foreclosure, the loss of accumulated home equity, and reduced access to credit. In addition, clusters of foreclosures can lead to declines in the values of nearby properties and do great damage to neighborhoods.

During the past two years, serious delinquencies among subprime adjustable-rate mortgages (ARMs) have increased dramatically. (Subprime mortgages with fixed rates, on the other hand, have had a more stable performance.) The fraction of subprime ARMs past due ninety days or more or in foreclosure reached nearly 15 percent in July, roughly triple the low seen...
For so-called near-prime loans in alt-A securitized pools (those made to borrowers who typically have higher credit scores than subprime borrowers but still pose more risk than prime borrowers), the serious delinquency rate has also risen, to 3 percent from 1 percent only a year ago. These patterns contrast sharply with those in the prime-mortgage sector, in which less than 1 percent of loans are seriously delinquent. Higher delinquencies have begun to show through to foreclosures. About 320,000 foreclosures were initiated in each of the first two quarters of this year (just more than half of them on subprime mortgages), up from an average of about 225,000 during the past six years. Foreclosure starts tend to be high in states with stressed economic conditions and to rise where house prices have decelerated or fallen.

Adjustable-rate subprime mortgages originated in late 2005 and in 2006 have performed the worst, with some of them defaulting after only one or two payments (or even no payment at all). Relative to earlier vintages, more of these loans carried greater risks beyond weak borrower credit histories—including very high initial cumulative loan-to-value ratios and less documentation of borrower income. In addition, the sharp deceleration in home prices since 2005, including outright declines in some markets, left many of these more-recent borrowers with little or no home equity. In this situation, some borrowers (particularly owner-investors) may have found that simply walking away from their properties was their best option. Moreover, low home equity has made refinancing—the typical way for many subprime borrowers to avoid large scheduled interest rate resets—difficult or impossible for many. Thus, with house prices still soft and many borrowers of recent-vintage subprime ARMs still facing their first interest rate resets, delinquencies and foreclosure initiations in this class of mortgages are likely to rise further. It is difficult to be precise about the number of foreclosure initiations expected in coming quarters, as it will depend on (among other factors) the evolution of house prices, which will vary widely across localities. Historically, about half of homeowners who get a foreclosure notice are ultimately displaced from their homes, but that ratio may turn out to be higher in coming quarters because the proportion of subprime borrowers, who have weaker financial conditions than prime borrowers, is higher. The rise could be tempered somewhat by loan workouts.

The originate-to-distribute model seems to have contributed to the loosening of underwriting standards in 2005 and 2006. When an originator sells a mortgage and its servicing rights, depending on the terms of the sale, much or all of the risks are passed on to the loan purchaser. Thus, originators who sell loans may have less incentive to undertake careful underwriting than if they kept the loans. Moreover, for some originators, fees tied to loan volume made loan sales a higher priority than loan quality. This misalignment of incentives, together with strong investor demand for securities with high yields, contributed to the weakening of underwriting standards.

The fragmented market structure of mortgage originators in the subprime-lending industry may also have contributed. Data collected under the Home Mortgage Disclosure Act show that independent mortgage companies—those that are not depository institutions or their subsidiaries or holding company affiliates—made nearly half of higher-priced first-lien mortgages in 2006 but only one-fourth of loans that were not higher-priced. In addition, some sources report that the majority of mortgages are obtained through a broker, often an independent entity, who takes loan applications on behalf of a depository institution or other lender. The various lending institutions and brokers operate under different regulatory and supervisory regimes with varying intensities of enforcement effort. That fragmentation makes monitoring brokers and lenders difficult for regulators and investors alike.
Markets do tend to self-correct. In response to the serious financial losses incurred by investors, the market for subprime mortgages has adjusted sharply. Investors are demanding that originators employ tighter underwriting standards, and some large lenders are pulling back from the use of brokers. The reassessment and resulting increase in the attention to loan quality should help prevent a recurrence of the recent subprime problems. Nevertheless, many homeowners who took out mortgages in recent years are in financial distress. To help those borrowers, the Federal Reserve, together with the other federal supervisory agencies, has issued two statements—in April, to mortgage lenders; and earlier this month, to mortgage servicers—to encourage the financial industry to work with borrowers to arrange prudent loan modifications to avoid unnecessary foreclosures. The Conference of State Bank Supervisors (CSBS) joined the federal agencies in the second statement. Often, loan workouts are in the interest of all parties. We have also encouraged lenders and servicers to identify and contact borrowers who, with counseling and possible loan modifications, may be able to avoid entering delinquency or foreclosure. The simple step of reaching out to borrowers before they get into trouble can be very productive. In addition, a member of the Federal Reserve Board serves as a director of NeighborWorks America, which encourages borrowers facing payment difficulties to seek help by contacting their lenders, services, or trusted counselors. Recently, NeighborWorks America launched a nationwide advertising campaign to increase awareness of available support from their 24-hour hotline, and they are now responding to 2,000 calls a day, almost double the number in June.

Additionally, the Federal Reserve is working closely with community and industry groups around the country to reduce homeowners' risks of foreclosure. The community affairs offices in each of the Reserve Banks provide significant leadership and technical assistance. For instance, a public-private collaboration initiated by the Federal Reserve Bank of Chicago with Neighborhood Housing Services of Chicago and the City of Chicago produced the Home Ownership Preservation Initiative (HOPI), which began in 2003. In the ensuing three years, the HOPI program counseled more than 4,000 people, prevented 1,300 foreclosures, and reclaimed 300 buildings.² HOPI has also been a model for foreclosure prevention programs now operating around the country, including in Baltimore and Atlanta and in Ohio. As another example, the community affairs office of the Federal Reserve Bank of San Francisco recently convened a series of workshops to develop community-based solutions to mortgage delinquencies in six cities. More than 700 lenders, housing counselors, community group representatives, and government officials attended.

### Regulatory Responses

The Federal Reserve takes responsible lending and consumer protection very seriously. Along with other federal and state agencies, we are responding to the subprime problems on a number of fronts. We are committed to preventing problems from recurring, while still preserving responsible subprime lending.

Last year, in coordination with other federal supervisory agencies, we issued principles-based guidance describing safety-and-soundness and consumer-protection standards for nontraditional mortgages, such as interest-only and negative-amortization mortgages. We subsequently issued illustrations to help institutions clearly communicate information to consumers. In June of this year the agencies issued supervisory guidance on subprime ARMs. The guidance describes standards that banks should follow to ensure that borrowers obtain loans that they can afford to repay and that give them the opportunity to refinance without prepayment penalty for a reasonable period before the interest rate resets. We have requested public comment on illustrations to help lenders implement this guidance.
The Board also is committed to providing more-effective disclosures to help consumers defend against improper lending. As I discussed in my testimony to this Committee in July, we recently issued proposed rules under Regulation Z, which implements the Truth in Lending Act (TILA), to improve disclosures related to credit cards and other revolving credit accounts. We are now engaged in a similarly rigorous review of TILA rules for mortgage loans and will be conducting extensive consumer testing of mortgage disclosures for this purpose. In my view, better disclosure of the schedule of mortgage payments over the life of the loan can help borrowers understand the terms of their mortgages and judge their ability to make future payments. Consumers may also benefit from better information about costs, including brokers' fees, when choosing among competing mortgage products. In addition, we are developing two sets of proposed changes to TILA rules--one to address concerns about incomplete or misleading mortgage loan advertisements and solicitations and a second to require lenders to provide mortgage disclosures more quickly so that consumers can get the information they need when it is most useful to them.

Improved and more timely disclosures may not be sufficient in some cases. As I discussed in July, we will use our rulemaking authority under the Home Ownership and Equity Protection Act to propose additional consumer protections later this year. We are looking closely at some mortgage lending practices, including prepayment penalties, escrow accounts for taxes and insurance, stated-income and low-documentation lending, and the evaluation of a borrower's ability to repay. The information that we gathered at a public hearing in June and from the subsequent comment letters has been extremely helpful.

The recent problems in subprime lending have underscored the need not only for better disclosure and new rules but also for more-uniform enforcement in the fragmented market structure of brokers and lenders. In that regard, the CSBS has partnered with the American Association of Residential Mortgage Regulators (AARMR) to develop a nationwide licensing system and database for mortgage professionals, and they have made considerable progress. The system is expected to start up in January 2008 with seven states, and another thirty states have committed and will be added gradually. Such a nationwide system would help limit the ability of originators who run afoul of their state regulators to continue operating simply by moving to another state.

Raising the quality of underwriting practices by all lenders to a uniformly high standard is an important objective. To that end, the Board and the other federal agencies worked with the CSBS to apply the two guidance documents I mentioned--on nontraditional mortgages and subprime ARMs--to state-supervised institutions. The CSBS published nearly identical guidance documents and has urged the states to implement them. Many states have done so, or are moving to do so.

To achieve strong and uniform enforcement, interagency cooperation among a variety of federal and state agencies is essential. As I noted in my testimony in July, the Board has launched a pilot program with the CSBS, AARMR, the Office of Thrift Supervision, and the Federal Trade Commission. The goal of this program is to expand and improve consumer protection by strengthening compliance reviews at selected nondepository lenders with significant subprime-mortgage operations. The Board will review nonbank subsidiaries of bank holding companies, and the other agencies will conduct similar reviews of nondepository institutions of thrift holding companies, independent mortgage lending companies, and mortgage brokers doing business with these entities. The reviews will include an evaluation of the companies' underwriting standards and senior-management oversight of the practices used for ensuring compliance with consumer protection regulations.
and laws. The agencies have been working closely together and are scheduled to begin the on-site reviews in the fourth quarter. The partner agencies will share information about the reviews and make joint assessments of lessons learned. This project should also lay the groundwork for various additional forms of future cooperation to ensure more effective and consistent supervision and consumer protection.

**Legislative Responses**

Beyond the actions underway at the regulatory agencies, I am aware that the Congress is considering statutory changes to help alleviate the problem of foreclosures. Modernizing the programs administered by the Federal Housing Administration (FHA) is one promising direction. The FHA has considerable experience in providing home financing for low- and moderate-income borrowers. It insures mortgages made to borrowers who meet certain underwriting criteria and who pay premiums into a reserve fund that is designated to cover the costs in the event of default. This insurance makes the loans less risky for lenders and investors, and it makes the loans eligible for securitization through the Government National Mortgage Association (Ginnie Mae).

Historically, the FHA has played an important role in the mortgage market, particularly for first-time home buyers. However, the FHA's share of first-lien home purchase loans declined substantially, from about 16 percent in 2000 to about 5 percent in 2006, as borrowers who might have sought FHA backing instead were attracted to nontraditional products with more-flexible and quicker underwriting and processing. In addition, maximum loan values that the FHA will insure have failed to keep pace with rising home values in many areas of the country.

In modernizing FHA programs, Congress might wish to be guided by design principles that allow flexibility and risk-based pricing. To alleviate foreclosures, the FHA could be encouraged to collaborate with the private sector to expedite the refinancing of creditworthy subprime borrowers facing large resets. Other changes could allow the agency more flexibility to design new products that improve affordability through features such as variable maturities or shared appreciation. In addition, creating risk-based FHA insurance premiums that match insurance premiums with borrowers' credit profiles would give more households access to refinancing options.

The risk of moral hazard must be considered in designing government-backed programs; such programs should not bail out failed investors, as doing so would only encourage excessive risk-taking. One must also consider adverse selection; programs that provide credit to only the weakest eligible borrowers are likely to be more costly than those that serve a broader risk spectrum. Risk-based insurance premiums or tighter screening and monitoring by lenders can mitigate adverse selection. But ultimately such mechanisms have their limits, and no government program will be able to provide meaningful help to the highest-risk borrowers without a public subsidy. Whether such subsidies should be employed is a decision for the Congress.

The government-sponsored enterprises (GSEs) Fannie Mae and Freddie Mac are, to a limited extent, assisting in subprime refinancings and should be encouraged to provide products for subprime borrowers to the extent permitted by their charters. However, the GSE charters are likely to limit the ability of the GSEs to serve any but the most creditworthy subprime borrowers. Indeed, if GSE programs remove the strongest borrowers from the pool, the risks faced by other programs--such as a modernized FHA program--could be increased.
Some have suggested that the GSEs could help restore functioning in the secondary markets for non-conforming mortgages (specifically jumbo mortgages, those with principal value greater than $417,000) if the conforming-loan limits were raised. However, in my view, the reason that GSE securitizations are well-accepted in the secondary market is because they come with GSE-provided guarantees of financial performance, which market participants appear to treat as backed by the full faith and credit of the U.S. government, even though this federal guarantee does not exist. Evidently, market participants believe that, in the event of the failure of a GSE, the government would have no alternative but to come to the rescue. The perception, however inaccurate, that the GSEs are fully government-backed implies that investors have few incentives in their role as counterparties or creditors to act to constrain GSE risk-taking. Raising the conforming-loan limit would expand this implied guarantee to another portion of the mortgage market, reducing market discipline further. If, despite these considerations, the Congress were inclined to move in this direction, it should assess whether such action could be taken in a way that is both explicitly temporary and able to be implemented sufficiently promptly to serve its intended purpose. Any benefits that might conceivably accrue to this action would likely be lost if implementation were significantly delayed, as private securitization activity would likely be inhibited in the interim.

**Implications for Financial Markets and Monetary Policy**

Most recently, as I am sure Committee members are well aware, subprime mortgage losses that triggered uncertainty about structured products more generally have reverberated in broader financial markets, raising concern about the consequences for economic activity. As I noted in a speech last month at the economic symposium hosted by the Federal Reserve Bank of Kansas City, the turbulence originated in concerns about subprime mortgages, but the resulting global financial losses have far exceeded even the most pessimistic estimates of the credit losses on these loans. These wider losses reflect, in part, a significant increase in investor uncertainty centered on the difficulty of evaluating the risks for a wide range of structured securities products, which can be opaque or have complex payoffs. Investors also may have become less willing to assume risk. Some increase in premiums that investors require to take risk is probably a healthy development on the whole, as these premiums have been exceptionally low for some time. However, in this episode, the shift in risk attitudes combined with greater credit risk and uncertainty about how to value those risks has created significant market stress. On the positive side of the ledger, past efforts to strengthen capital positions and financial market infrastructure places the global financial system in a relatively strong position to work through this process.

In response to these developments, the Federal Reserve moved in early August to provide reserves to address unusual strains in money markets. On August 17, the Federal Reserve Board announced a cut in the discount rate of 50 basis points and adjustments to the Reserve Banks’ usual discount window practices to facilitate the provision of term financing for as long as thirty days, renewable by the borrower. The purpose of the discount window actions was to assure depositories of the ready availability of a backstop source of liquidity. The Federal Reserve also took a number of supplemental actions, such as cutting the fee charged for lending Treasury securities.

Earlier this week, Federal Open Market Committee lowered its target for the federal funds rate by 50 basis points. The action was intended to help forestall some of the adverse effects on the broader economy that might arise from the disruptions in financial markets and to promote moderate growth over time. Recent developments in financial markets have increased the uncertainty surrounding the economic outlook. The Committee will continue to
assess the effects of these and other developments on economic prospects and will act as needed to foster price stability and sustainable economic growth.

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**Footnotes**

1. Estimates of delinquencies are based on data from First American LoanPerformance. [Return to text](#)

Speech

Chairman Ben S. Bernanke

Opening remarks

To the Conference on John Taylor's Contributions to Monetary Theory and Policy,

Federal Reserve Bank of Dallas, Dallas, Texas
(via videoconference)

October 12, 2007

It is a privilege for me to open this conference dedicated to our colleague and friend, John Taylor. John's influence on monetary theory and policy has been profound indeed. That influence has been manifest in undergraduate lecture halls and graduate seminar rooms, in the best research journals, and in the highest ranks of government. His ability to crystallize important analytical insights and apply them to policy issues is unsurpassed. Indeed, in a speech a few years ago, I noted three concepts named after John that are central to understanding our macroeconomic experience of the past three decades--the Taylor curve, the Taylor rule, and the Taylor principle (Bernanke, 2004). I'd like to take a few minutes to review John's career and impressive body of work.

After receiving his Ph.D. from Stanford nearly thirty-five years ago, John began his career as an assistant professor at Columbia University. Even in those early years, John revealed his interest in applying the analytical tools of economics to practical policy issues. He took a leave of absence from academia in 1976-77 to serve on the staff of the Council of Economic Advisers. I suspect that the circumstances of the mid-1970s intensified John's motivation to help improve economic performance through sound policymaking.

During the late 1970s and early 1980s, John published a number of highly influential papers, including: "Conditions for Unique Solutions in Stochastic Macroeconomic Models with Rational Expectations," "Estimation and Control of a Macroeconomic Model with Rational Expectations," "Aggregate Dynamics and Staggered Contracts," and "Solution and Maximum Likelihood Estimation of Dynamic Nonlinear Rational Expectations Models." (As you can tell, John has always had a penchant for catchy titles.) Beyond its important technical contributions, this work showed that the insights and methods of the rational expectations revolution could be applied to models with sticky wages and prices. That observation has proved enormously influential in subsequent policy research.

The rational expectations revolution helped to kill the idea of a long-run tradeoff between the levels of inflation and unemployment. However, John's analysis showed that, in the presence of aggregate supply shocks, attempts by monetary policymakers to reduce the volatility of inflation over time could be associated with higher volatility in unemployment, and vice versa. John's visual depiction of this policy tradeoff has come to be known as the Taylor curve. Interestingly, John's work anticipated the possibility that improvements in the conduct of monetary policy or changes in the structure of the economy could result in a shift of the Taylor curve--that is, a change in the ability of policy to smooth both inflation and
employment. And indeed, what economists have dubbed the Great Moderation--a simultaneous reduction in the volatility of inflation and the volatility of real economic activity--has occurred in the United States and in many other economies over the past quarter-century.

Over the course of the 1980s, John continued his work on rational expectations issues and monetary policy and macroeconomics more generally. He also began to broaden his focus to matters of international economics. He developed a multi-country rational expectations econometric model--a truly ambitious undertaking, especially in light of the limited computing capabilities of the era. By this point in his career, John had firmly established his reputation as a leader in the profession.

In 1989, John became a member of the first President Bush's Council of Economic Advisers. During the next four years, he played a key role in shaping the Administration's positions on macroeconomic, fiscal, international finance, and trade issues. The U.S. economy was entering a difficult period at that point. Among other problems, significant pressures on bank balance sheets were beginning to emerge that would damp economic growth for the next several years. While dealing with the serious economic issues of the time, John and the other members of the Council simultaneously produced an impressive manifesto for policymaking. They developed a rules-based approach to the conduct of monetary and fiscal policy and published it in 1990 in the Economic Report of the President.

That essay laid the foundation for what is perhaps John's most well-known contribution to economics--the simple description of the determinants of monetary policy that eventually became known as the Taylor rule.\(^1\) John's analysis triggered an avalanche of studies examining the stabilization properties of Taylor rules in the context of macroeconomic models. Other work investigated the ability of variants of the Taylor rule to describe empirically the actual course of monetary policy in the United States and in other economies.

The Taylor rule also embeds a basic principle of sound monetary policy that has subsequently been referred to as the Taylor principle.\(^2\) According to this principle, when a shock causes a shift in the inflation rate, the central bank must adjust the nominal interest rate by more than one-for-one. This ensures that the real interest rate moves in the right direction to restore price stability. The Taylor principle provides essential guidance for central banks on how to anchor long-run inflation expectations and foster stable growth and low inflation.

Ever since its inception, John has emphasized that the Taylor rule should not be applied mechanistically. The world is far too complicated for that. But he has argued that such rules can serve as useful benchmarks for the practical conduct of monetary policy. In fact, policymakers at the Federal Reserve and many other central banks do routinely consult various policy rules as they make judgments on the appropriate stance of monetary policy.

After a decade back at Stanford, John was called again to Washington by President Bush--this time the current President Bush. He served as Under Secretary for International Affairs at the U.S. Treasury from 2001 through 2005. Our economy faced severe challenges during that period--the terrorist attacks of September 11, a recession and the threat of deflation, corporate governance scandals, and economic issues posed by the conflicts in Afghanistan and Iraq. Suffice it to say, John earned his stripes as the leader of the "Global Financial Warriors." As detailed in his book of the same title, John worked extensively on the financial reconstruction of Iraq and on the development of financial tools for fighting terrorism. The Treasury Department recognized his efforts in 2004 with its Distinguished Service Award and in 2005 with the Alexander Hamilton Award for leadership in international finance.
After his stint at Treasury, John returned once again to the less tumultuous life of a professor, ensconced in his offices at Stanford University and the Hoover Institution. I'm sure that, in between teaching and guiding the work of graduate students, he will continue to offer insightful commentary on monetary policy and other economic issues. And doubtless he will also continue to do pathbreaking research. Indeed, with our appetites whetted by the Taylor rule, principle, and curve, we now look forward to the Taylor dictum, the Taylor hyperbola, and maybe even the Taylor conundrum.

Before closing my remarks, I would like to express my appreciation to President Fisher and the Federal Reserve Bank of Dallas for hosting this conference. It is a terrific opportunity for celebrating John's contributions to monetary theory and policy. The papers on the program testify to the breadth and depth of John's work. I wish I could be there with you today to listen to the presentations and participate in the discussions. However, I know that you will have a productive and collegial gathering over the next two days. And I wish all of you--but especially my friend and colleague John Taylor--all the best in your endeavors.

References


Footnotes

1. The number "two" and its inverse, one-half, played a key role in this rule: The benchmark setting for the federal funds rate would be 2 percent, plus the current rate of inflation, plus one-half times the gap between current inflation and 2 percent, plus one-half times the output gap. Return to text

2. This principle originally became apparent through numerical simulations of macroeconomic models with rational expectations (including Taylor's multicountry model); refer also to Bryant, Hooper, and Mann (1993). The phrase "Taylor principle" was introduced by Woodford (2001), who demonstrated this principle analytically in a stylized New Keynesian model.
John Taylor Rules
The Role of Simple Rules in Monetary Policymaking

It is a pleasure and an honor to speak at this conference honoring John Taylor and his contributions to monetary theory and policy. As you have already heard from Chairman Bernanke and the other speakers today, John has made a number of seminal contributions to the field of macroeconomics. What has distinguished John's work, in my view, is that he takes policymaking in the real world seriously.¹

Taking policymaking seriously involves understanding the constraints imposed on our decisions by partial information and incomplete knowledge of economic relationships. It also implies the use of empirically valid models that acknowledge the efforts of households and businesses to anticipate the future and maximize their welfare over time. In the late 1980s and early 1990s, macroeconomics was focused mainly on real business cycles and endogenous growth theory. During this period, John was one of a very small number of academic economists who continued to pursue research aimed at informing the conduct of monetary policy. John's Carnegie Rochester conference paper published in 1993 is an excellent example of this research.

Importantly, John's legacy to the Federal Reserve has not been confined to enhancing our understanding of monetary policy. In addition, he has turned out legions of students who have followed in his footsteps in their interest in policy. Many of them have spent time in the Federal Reserve, producing a rich array of contributions to policymaking and research.

John and I have spent countless hours discussing how the Federal Reserve arrives at decisions about monetary policy and how it should arrive at decisions. Those conversations began in earnest in the late 1980s, when John was on the Council of Economic Advisers, and they have continued to the present day. They have occurred not only in offices and classrooms in Washington and Stanford and at numerous conferences around the globe, but also around dinner tables in Washington and Palo Alto and on hiking trails from Vermont to Wyoming.

Those conversations made me a better policy adviser and then policymaker, and they have had the added and very special bonus of allowing Gail and me to count John and Allyn among our friends. I can't think of a better way to honor John's contributions than to continue that discussion around the dinner tables of Dallas by reflecting on the role of simple rules in informing policymaking.

Three Benefits of Simple Rules in Monetary Policymaking

In his Carnegie Rochester conference paper, John considered a simple policy rule under which the nominal federal funds rate is adjusted in response to both the gap between real and trend gross domestic product (GDP) and the gap between the inflation rate and policymakers'
target. Based on data for the previous few years, John calibrated the long-run target for inflation and the two parameters that determine the responsiveness of the federal funds rate to the two gaps. The equilibrium real interest rate was based on a longer history of actual real interest rates. In the handout, Figure 1A depicts the actual nominal funds rate and the Taylor rule prescriptions between 1987 and 1992, as presented in John's paper. Despite its simplicity, this policy rule fits the data remarkably well; it described a period of generally successful policymaking; and it adhered to the Taylor principle of adjusting the nominal rate more than one-for-one with changes in the inflation rate, so it provided a plausible template for future success. It is no wonder that John has been such a dedicated salesman and that his efforts have been so well received in academia and policy councils.

Figure 1A

Following John's seminal contribution, many other economists have engaged in research on similar policy rules and, together with John, have identified several benefits of such rules in conducting monetary policy. I will elaborate on three of them.

The first benefit of looking at a simple rule like John's is that it can provide a useful benchmark for policymakers. It relates policy setting systematically to the state of the economy in a way that, over time, will produce reasonably good outcomes on average. Importantly, the emphasis is on levels and gaps, not growth rates, as inputs to the policy process. This emphasis can be a problem when a level, say of potential GDP, is in question, but in many respects it is also a virtue. For the United States, the two gaps relate directly to the legislative mandate of the Federal Reserve to achieve stable prices and maximum employment. Moreover, those two gaps fit directly into most modern macroeconomic theories, which tell us something about their relationship and how that relationship can be affected by the type of shock hitting the economy.

Model uncertainties make the simplicity of the rule particularly important for the policymaker because research suggests that the prescriptions from simple rules can be more robust than optimal-control policies. Optimal-control policies can depend critically on the exact
specification of the model, and clearly there is no consensus about which model best describes the U.S. economy.

Federal Reserve policymakers are shown several versions of Taylor rules in the material we receive before each meeting of the Federal Open Market Committee (FOMC). I always look at those charts and tables and ask myself whether I am comfortable with any significant deviation of my policy prescription from those of the rules.

A second benefit of simple rules is that they help financial market participants form a baseline for expectations regarding the future course of monetary policy. Even if the actual policy process is far more sophisticated than any simple rule could completely describe, the rule often provides a reasonably good approximation of what policymakers decide and a framework for thinking about policy actions. Indeed, many financial market participants have used the Taylor rule to understand U.S. monetary policy over the past fifteen years. Investors and other market participants are going to form expectations about policy and act on those expectations. The more accurate and informed those expectations are, the more likely are their actions to reinforce the intended effects of policy.

A third benefit is that simple rules can be helpful in the central bank's communication with the general public. Such an understanding is important for the transmission mechanism of monetary policy. Giving the public some sense of how the central bank sees the output and inflation gaps and how they are expected to evolve will help it understand the central bank's objectives and how policymakers are likely to respond to surprises in incoming data.

Four Limitations of Simple Rules

Simple rules have limitations, of course, as benchmarks for monetary policy. To quote from John's Carnegie Rochester paper, "a policy rule can be implemented and operated more informally by policymakers who recognize the general instrument responses that underlie the policy rule, but who also recognize that operating the rule requires judgment and cannot be done by computer" (p. 198). In that context, four limitations of simple rules are important.

The first limitation is that the use of a Taylor rule requires that a single measure of inflation be used to obtain the rule prescriptions. The price index used by John in the Carnegie Rochester paper was the GDP price deflator. Other researchers have used the inflation measure based on the consumer price index (CPI). Over the past fifteen years, the Federal Reserve has emphasized the inflation rate as measured by changes in the price index for personal consumption expenditures (PCE). Many researchers have also explored the use of core price indexes, which exclude the volatile food and energy components, as better predictors of future inflation or as more robust indicators of the sticky prices that some theories say should be the targets of policy. To be sure, over long periods, most of these measures behave very similarly. But policy is made in the here and now, and the various indexes can diverge significantly for long stretches, potentially providing different signals for the appropriate course of monetary policy.

Second, the implementation of the Taylor rule and other related rules requires determining the level of the equilibrium real interest rate and the level of potential output; neither of them are observable variables, and both must be inferred from other information. John used 2 percent as a rough guess as to the real federal funds rate that would be consistent with the economy producing at its potential. But the equilibrium level of the real federal funds rate probably varies over time because it depends on factors such as the growth rate of potential output, fiscal policy, and the willingness of savers to supply credit to households and businesses. Inaccurate estimates of this rate will mislead policymakers about the policy stance required to achieve full employment. In a similar vein, real-time estimates of potential output can be
derived in a number of ways and—as shown by Orphanides (2003) and others—they are subject to large and persistent errors. If policymakers inadvertently rely on flawed estimates, they will encounter persistent problems in achieving their inflation objective.

The third limitation of using simple rules for monetary policymaking stems from the fact that, by their nature, simple rules involve only a small number of variables. However, the state of a complex economy like that of the United States cannot be fully captured by any small set of summary statistics. Moreover, policy is best made looking forward, that is, on the basis of projections of how inflation and economic activity may evolve. Lagged or current values of the small set of variables used in a given simple rule may not provide a sufficient guide to future economic developments, especially in periods of rapid or unusual change. For these reasons, central banks monitor a wide range of indicators in conducting monetary policy. In his Carnegie Rochester paper, John mentioned the stock market crash of October 1987 as an example of how other variables can and should influence the course of monetary policy in some situations.

The final limitation I want to highlight is that simple policy rules may not capture risk-management considerations. In some circumstances, the risks to the outlook or the perceived costs of missing an objective on a particular side may be sufficiently skewed that policymakers will choose to respond by adjusting policy in a way that would not be justified solely by the current state of the economy or the modal outlook for output and inflation gaps.

Policy Rules around 2003

Some of the ambiguities and potential pitfalls in the use of simple policy rules are highlighted by considering their prescriptions for a period earlier in this decade. Turning to Figure 1B, the solid line indicates the actual federal funds rate between the first quarter of 1993 and the second quarter of 2007, and the dashed line shows the prescriptions of the Taylor rule using the same methodology that John used in his Jackson Hole remarks this year. For the earlier part of the sample, the prescription from this simple rule tracks the actual funds rate relatively well. As John pointed out, a notable deviation happened beginning in 2002, and I would like to discuss that period to illustrate the limitations I noted earlier.

Inflation Measure

The first limitation is related to the measure used for the inflation variable included in the rules. The rule prescriptions depicted by the dashed line in Figure 1B are based on the headline CPI. But as you know, the FOMC often looks at core inflation, stripping out the effects of energy and food prices, as a better indicator of future price behavior. The dotted line represents the rule prescriptions based on the chain-weighted core CPI, which the Bureau of Labor Statistics has produced since 2000. Using this measure lowers the prescribed funds rate by about 2 percentage points during 2003, bringing the rule prescriptions much closer to the actual path of policy. The reason for the improvement is evident from Figure 2A, on the other side of the handout: Even though the headline and core CPI measures were broadly similar in the mid- to late 1990s, these measures diverged substantially between 2003 and 2005.

Potential Output

The second limitation relates to the challenge of judging the level of potential output in real time. To illustrate this point, Figure 2B plots three measures of the output gap. The solid line is the real-time estimate by the Congressional Budget Office (CBO) that was used in the Taylor rule prescriptions in Figure 1B, while the dashed line depicts the CBO's ex post estimate of the output gap as of the third quarter of 2007. Back in 2003, the CBO estimated
that output at that time was below potential by only 1 percent. With the benefit of four more years of data, the CBO currently estimates that the output gap for the first half of 2003 was considerably wider--about 3 percent. In addition, the dotted line represents an alternative measure of resource utilization derived from the unemployment rate and an estimate of the natural rate of unemployment (NAIRU) taken from the Board staff’s FRB/US model. In fact, the unemployment rate was rising through the middle of 2003, so the FOMC had every reason to believe that the output gap was widening at that time. Using this unemployment-based measure rather than the real-time CBO measure would reduce the prescriptions of simple policy rules by roughly 1/2 percentage point in early 2003.

Figure 1B

[Diagram showing Federal funds rate, Taylor rule (headline CPI), Taylor rule (chain-weighted core CPI) over time from 2003 to 2007.]

Figure 2A

Consumer price inflation
(Four-quarter moving average)
Other Variables

The third limitation in my list was that the small set of economic measures included in simple rules may not fully reflect the state of the economy. Around 2003, financial market conditions may not have been adequately summarized by the assumed 2 percent equilibrium federal funds rate. Accounting scandals caused economic agents to lose confidence in published financial statements and in bond ratings. The result was higher uncertainty about the financial health of firms, and credit spreads widened substantially. Figure 2C shows that risk spreads on corporate bonds were elevated in this period. Other things equal, such spreads would reduce the federal funds rate needed to achieve full employment, perhaps explaining a portion of the gap between the actual federal funds rate and the outcome from the policy rule during this period.

Risk Management

The last item on my list of limitations was that simple rules do not take account of risk-management considerations. As shown in Figure 2A, the core CPI inflation rate for 2003 was falling toward 1 percent. The real-time reading of the core PCE inflation rate (not shown) was on average even lower than the comparable CPI figure. Given these rates, the possibility
of deflation could not be ruled out. We had carefully analyzed the Japanese experience of the 
early 1990s; our conclusion was that aggressively moving against the risk of deflation would 
pay dividends by reducing the odds on needing to deal with the zero bound on nominal 
interest rates should the economy be hit with another negative shock. This factor is not 
captured by simple policy rules.

A Final Note

I have offered this analysis in the spirit of so many of the discussions I have had with John. 
His framework has been enormously important to policymaking in the Federal Reserve, and it 
has yielded many benefits. Nevertheless, it's important to keep in mind that some significant 
practical limitations also are associated with the application of such rules in real time. In 
other words, it's not so simple to use simple rules!

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"Housing, Housing Finance, and Monetary Policy," a symposium sponsored by the Federal 
Reserve Bank of Kansas City, held in Jackson Hole, Wyo., August 30-September 1, 

Footnotes

1. I am sure my colleagues join me in honoring John. However, my thoughts on policy rules 
are my own and not necessarily those of my colleagues on the Federal Open Market 
Committee. Jinill Kim and Andrew Levin, of the Board's staff, contributed to the preparation 
of these remarks. Return to text

2. Following John, the rule specification and the data used for the prescriptions closely 
follow the implementation of the Taylor rule in Bill Poole's speech in August 2006 (Poole, 
2007). The inflation measure used for this rule is the four-quarter average headline CPI 
inflation rate, with the benchmark value set to 2 percent. Through 2001, the gap between real 
GDP and its potential is the value measured in real time by the staff of the Board of 
Governors. Because subsequent staff estimates of the output gap are not yet publicly 
available, the rule prescriptions for the post-2001 period are computed with the real-time 
output gap as constructed by the Congressional Budget Office.
Speech
Chairman Ben S. Bernanke
At the Economic Club of New York, New York, New York
October 15, 2007

The Recent Financial Turmoil and its Economic and Policy Consequences

The past several months have been an eventful period for the U.S. economy. In financial markets, sharpened concerns about credit quality induced a retrenchment by investors, leading in some cases to significant deterioration in market functioning. For some households and firms, credit became harder to obtain and, for those who could obtain it, more costly. Tightening credit conditions in turn threatened to intensify the ongoing correction in the housing market and to restrain economic growth. In response to these developments, the Federal Reserve has taken a number of measures to help ensure the normal functioning of financial markets and to promote sustainable economic growth and price stability. In my remarks this evening I will review recent events, discuss the Federal Reserve's responses to those events, and conclude with some comments on the economic outlook in light of recent developments. Although financial markets around the world have come under pressure in the past few months, I will focus my comments primarily on the United States. I will also have little to say this evening about the serious implications of rising rates of mortgage delinquency and foreclosure for troubled borrowers and their communities or about the Federal Reserve's responses to these important problems; I have discussed these issues several times in the past and will return to them in the future.

The Origins and Evolution of the Financial Turmoil

Overall, U.S. economic performance so far this year has been reasonably good. The rate of economic expansion slowed somewhat in late 2006 and early 2007, but growth in the second quarter was solid and some of that momentum appears to have carried over into the third quarter. The pace of private-sector job creation has slowed this year, but the unemployment rate has moved up only a little from its recent lows. And, although energy prices have been volatile, indicators of the underlying inflation trend, such as core inflation, have moderated since the middle of last year.

Moderate growth in overall economic activity has continued despite a notable contraction in the housing sector that began in the second half of 2005. The housing correction has intensified this year as demand has declined further, inventories of unsold new homes have climbed relative to sales, and house prices have decelerated, with some areas of the country experiencing outright declines in home values. In response to weak demand and bloated inventories, homebuilders have sharply curtailed new construction. The decline in residential investment directly subtracted about 3/4 percentage point from the average pace of U.S. economic growth over the past year and a half. In its regular reports to Congress, most recently in July, the Federal Reserve Board has highlighted as a downside risk the possibility...
that housing weakness might spill over to other parts of the economy—for example, by acting as a restraint on consumer spending. Thus far, however, direct evidence of such spillovers onto the broader economy has been limited.

The housing correction has taken a more visible toll on the financial markets. In particular, since early this year, investors have become increasingly concerned about the credit quality of mortgages, especially subprime mortgages. The rate of serious delinquencies has risen notably for subprime mortgages with adjustable rates, reaching nearly 16 percent in August, roughly triple the recent low in mid-2005. Subprime mortgages originated in late 2005 and 2006 have performed especially poorly, in part because of a deterioration in underwriting standards. Moreover, many recent-vintage subprime loans will experience their first interest-rate resets in coming quarters. With the softness in house prices likely to make refinancing more difficult, delinquencies on these mortgages are expected to rise further.

At one time, most mortgages were originated by depository institutions and held on their balance sheets. Today, however, mortgages are often bundled together into mortgage-backed securities or structured credit products, rated by credit rating agencies, and then sold to investors. As mortgage losses have mounted, investors have questioned the reliability of the credit ratings, especially those of structured products. Since many investors had not performed independent evaluations of these often-complex instruments, the loss of confidence in the credit ratings led to a sharp decline in the willingness of investors to purchase these products. Liquidity dried up, prices fell, and spreads widened. Since July, few securities backed by subprime mortgages have been issued.

Investors' reluctance to buy has not been confined to securities related to subprime mortgages. Notably, the secondary market for private-label securities backed by prime jumbo mortgages has also contracted, and issuance of such securities has dwindled. Even though default rates on such mortgages have remained very low, the experience with subprime mortgages has evidently made investors more sensitive to the risks associated with other housing-related assets as well.

The problems in the mortgage-related sector reverberated throughout the financial system and particularly in the market for asset-backed commercial paper (ABCP). In this market, various institutions have established special-purpose vehicles to issue commercial paper to help fund a variety of assets, including some private-label mortgage-backed securities, mortgages warehoused for securitization, and other long-maturity assets. Investors had typically viewed the commercial paper backed by these assets as quite safe and liquid, because of the quality of the collateral and because the paper is often supported by banks' commitments to provide lines of credit or to assume some credit risk. But the concerns about mortgage-backed securities and structured credit products (even those unrelated to mortgages) greatly reduced the willingness of investors to roll over ABCP, particularly at maturities of more than a few days. The problems intensified in the second week of August after the announcement by a large overseas bank that it could not value the ABCP held by some of its money funds and was, as a result, suspending redemptions from those funds. Some commercial paper issuers invoked their right to extend the maturity of their paper, and a few issuers defaulted. In response to the heightening of perceived risks, investors fled to the safety and liquidity of Treasury bills, sparking a plunge in bill rates and a sharp widening in spreads on ABCP.

The retreat by investors from structured investment products also affected business finance. In particular, issuance of collateralized loan obligations (CLOs) and collateralized debt obligations (CDOs), which in turn had been major buyers of leveraged syndicated loans, fell off significantly during the summer. Demand for leveraged loans slowed sharply, reducing
credit access for private equity firms and other borrowers seeking to finance leveraged buyouts (LBOs).

Concerns about liquidity and credit risk surfaced even in markets in which securitization plays a much smaller role. For example, spreads on lower-tier unsecured commercial paper jumped and issuance was limited to very short maturities. In corporate bond markets, issuance of speculative-grade bonds dropped off sharply as risk spreads widened. And although equity prices have moved up on balance since late spring, swings in prices have been large; indeed, the expected stock-price volatilities implicit in options prices roughly doubled during the summer before falling back more recently.

As the strains in financial markets intensified, many of the largest banks became concerned about the possibility that they might face large draws on their liquidity and difficult-to-forecast expansions of their balance sheets. They recognized that they might have to provide backup funding to programs that were no longer able to issue ABCP. Moreover, in the absence of an active syndication market for the leveraged loans they had committed to underwrite and without a well-functioning securitization market for the nonconforming mortgages they had issued, many large banks might be forced to hold those assets on their books rather than sell them to investors as planned. In these circumstances of heightened volatility and diminished market functioning, banks also became more concerned about the possible risk exposures of their counterparties and other potential contingent liabilities.

These concerns prompted banks to become protective of their liquidity and balance sheet capacity and thus to become markedly less willing to provide funding to others, including other banks. As a result, both overnight and term interbank funding markets came under considerable pressure. Interbank lending rates rose notably, and the liquidity in these markets diminished. A number of the U.S. ABCP programs that had difficulty rolling over paper were sponsored by or had backup funding arrangements with European banks. As a result, some of these banks faced potentially large needs for dollar funding, and their efforts to manage their liquidity likely contributed to the pressures in global money and foreign exchange swap markets.

The U.S. subprime mortgage market is small relative to the enormous scale of global financial markets. So why was the impact of subprime developments on the markets apparently so large? To some extent, the outsized effects of the subprime mortgage problems on financial markets may have reflected broader concerns that problems in the U.S. housing market might restrain overall economic growth. But the developments in subprime were perhaps more a trigger than a fundamental cause of the financial turmoil. The episode led investors to become more uncertain about valuations of a range of complex or opaque structured credit products, not just those backed by subprime mortgages. They also reacted to market developments by increasing their assessment of the risks associated with a number of assets and, to some degree, by reducing their willingness to take on risk more generally. To be sure, these developments may well lead to a healthier financial system in the medium to long term: Increased investor scrutiny of structured credit products is likely to lead to greater transparency in these products and more rigor in the credit-rating process. And greater caution on the part of investors seems appropriate given the very narrow spreads and the loosening in some underwriting standards seen before the recent episode began. In the shorter term, however, these developments do imply a greater measure of financial restraint on economic growth as credit becomes more expensive and difficult to obtain.
The Federal Reserve's Response to the Financial Turmoil

Fortunately, the financial system entered the episode of the past few months with strong capital positions and a robust infrastructure. The banking system is healthy. Despite a few notable failures, hedge funds overall seem to have held up well, and their counterparties have not sustained material losses. The clearing and settlement infrastructure generally worked well despite trading volumes that were extremely high in some cases. Nevertheless, the market strains were serious, as I have discussed, and they posed risks to the broader economy. The Federal Reserve accordingly took a number of steps to help markets return to more orderly functioning.

The Federal Reserve's initial action was to increase liquidity in short-term money markets through larger open market operations--the standard means by which it seeks to ensure that the federal funds rate stays at or near the target rate set by the Federal Open Market Committee (FOMC). A number of other central banks took similar steps. One source of pressure in the overnight market was the demand for dollar funding by European banks to which I alluded earlier. As Europe is in the latter part of its trading day when U.S. markets open, this extra demand for dollars at times led the federal funds rate to open well above the target. The extra provision of liquidity by the Fed helped counter the resulting pressure on the funds rate early in the day; it also eased banks' concerns about the availability of funding and thus assisted the functioning of the interbank market. To be clear, an open market operation can provide market participants with increased liquidity; but the intervention does not directly increase participants' capital or allow them to shed risk. In essence, these operations are short-term loans collateralized by government securities.

The vigorous provision of funds through open market operations succeeded in damping pressures in overnight funding markets. Yet markets for term funding, including commercial paper markets as well as the interbank markets, remained strained, and signs of broader financial stress persisted. On August 17, the Fed took further action when the Federal Reserve Board cut the discount rate--the rate at which it lends directly to banks--by 50 basis points, or 1/2 percentage point. The Fed also adjusted its usual practices to facilitate the provision of financing for as long as thirty days, renewable at the request of the borrower.

Loans through the discount window differ from open market operations in that they can be made directly to specific banks with strong demands for liquidity. (In contrast, open market operations are arranged with a limited set of dealers of government securities.) In addition, whereas open market operations typically involve lending against government securities, loans through the discount window can be made against a much wider range of collateral, including mortgages and mortgage-backed securities. As with open market operations, however, Fed lending through the discount window provides banks with liquidity, not risk capital. In particular, the strong collateralization accompanying discount window credit eliminates essentially all risk for the Federal Reserve System and the taxpayer. Nonetheless, the availability of the discount window is potentially significant for banks, as it gives them greater confidence that they can obtain additional liquidity as necessary. Access to a backstop source of liquidity in turn reduces the incentives of banks to limit the credit they provide to their customers and counterparties. The Federal Reserve also took some other steps in response to strains in financial markets, including reducing the fee that it charges for lending Treasury securities from its portfolio, thus helping to meet the heavy demands in the market for those securities.

The Federal Reserve's actions to ease the liquidity strains in financial markets were similar to actions that central banks have taken many times in the past. Promoting financial stability and the orderly functioning of financial markets is a key function of central banks. Indeed, a
principal motivation for the founding of the Federal Reserve nearly a century ago was the expectation that it would reduce the incidence of financial crises by providing liquidity as needed.

In its supervisory role, the Federal Reserve--like other bank regulators--attempts to ensure that individual banks maintain adequate liquidity on hand and make provision to raise additional funds quickly when the need arises. We must be wary of a subtle fallacy of composition, however. Even if each market participant holds a significant reserve of what--in normal times, at least--would be considered highly liquid assets, for the system as a whole the only truly liquid assets are cash and its equivalents. The quantity of cash assets in the system at a point in time is, in turn, essentially fixed, being determined directly or indirectly by the central bank. Thus, whenever an investor sells less liquid assets to raise cash, the cash holdings of other market participants are reduced by an equal amount. Consequently, in highly stressed financial conditions, when the marketwide demand for liquidity rises sharply, one of two things must happen: Either the central bank provides the liquidity demanded by lending against good collateral, or forced sales of illiquid assets will drive the prices of those assets well below their longer-term fundamental values, raising the risk of widespread insolvency and intensifying the crisis. If the crisis becomes sufficiently severe, history suggests that damage to the broader economy is likely to follow.

In his classic 1873 treatise, *Lombard Street*, Walter Bagehot famously articulated the need for central banks to be prepared to lend freely against good collateral (what he called "good banking security") but at a penalty rate. A panic, said Bagehot, is a "species of neuralgia" and as such must not be starved (p. 25). Of course, judgment is required to assess whether a particular set of market conditions is severe enough to warrant extraordinary injections of liquidity by the central bank; a too-aggressive intervention could unduly reduce the incentives of market participants to insure against more-normal liquidity risks. In the steps it took, the Federal Reserve strove to reach a middle ground, signaling its willingness and ability to provide liquidity to markets as needed without significantly distorting the incentives of individual banks and other market participants to manage their liquidity prudently.

The Federal Reserve’s efforts to provide liquidity appear to have been helpful on the whole. To be sure, the volume of loans to banks made through the discount window, though it increased for a time, has been modest. However, collateral placed by banks at the discount window in anticipation of possible borrowing rose sharply during August and September, suggesting that some banks viewed the discount window as a potentially valuable option. On the other hand, no amount of liquidity provision by the central bank can be expected to solve the problems regarding the valuation of complex securitized assets or to reverse the credit losses on subprime mortgages. These underlying difficulties will be resolved only over time by financial markets.

Since mid-August the functioning of financial markets has improved to some degree, supported not only by liquidity provision but also by the monetary policy action taken in September, to which I will return in a moment. Interest rate spreads on ABCP have fallen by more than half from their recent peaks, and overall commercial paper outstanding has edged up this month after declining sharply over August and September. Interbank term funding markets have improved modestly, though spreads there remain unusually wide. Some progress has been made in bringing pending LBO-related loans to market, albeit at discounts and with tightened terms. Risk spreads in corporate bond markets have narrowed somewhat, the issuance of speculative-grade bonds has restarted, and investment-grade issuance has been strong. Volatility in many asset markets has declined toward more-normal levels. Perhaps most important, in many markets investors are showing an increased capacity and willingness to differentiate among assets of varying quality.
In contrast, despite a few encouraging signs, conditions in mortgage markets remain difficult. The markets for securitized nonprime (that is, subprime and so-called alt-A) loans are showing little activity, securitizations of prime jumbo mortgages reportedly have increased only slightly from low levels, and the spread between the interest rates on nonconforming and conforming mortgages remains elevated. These continued problems suggest that investors will need more time to gather information and reevaluate risks before they are willing to reenter these markets.

**Monetary Policy and the Economic Outlook**

The Federal Reserve's efforts to support the normal functioning of financial markets have as their ultimate objective the stability and efficiency of the broader economy. In addition, of course, the Federal Reserve can adjust the stance of monetary policy by changing its target for the federal funds rate. The FOMC manages monetary policy to further its dual mandate to promote maximum sustainable employment and price stability.

The turmoil in financial markets significantly affected the Committee's outlook for the broader economy. Indeed, in a statement issued simultaneously with the Federal Reserve Board's August 17 announcement of the cut in the discount rate, the FOMC noted that the downside risks to growth had increased appreciably. However, to allow time to gather and evaluate incoming information, possible policy action was deferred until the Committee's next regularly scheduled meeting on September 18.

A key issue at that meeting was the extent to which the market disturbances had affected the outlook for the housing sector. Financial markets overall had improved somewhat, but tighter terms and standards in the mortgage market--particularly in the nonprime and jumbo segments--appeared likely to intensify the correction in housing significantly, with adverse implications for construction activity and house prices. Indeed, incoming housing data had continued to soften even before the advent of the stress in financial markets. A further sharp contraction in residential construction seemed likely to hold down overall economic growth in the fourth quarter and in early 2008.

As they had at earlier meetings, the participants in the September meeting evaluated the potential effects of housing-market developments on other parts of the economy. They agreed that significant spillovers to household and business spending were not yet evident. For example, auto sales had picked up in August from the low levels of earlier in the summer; and business investment did not appear to have been seriously affected by financial market developments, as highly rated firms continued to enjoy good access to credit. Strong growth abroad was also viewed as supporting U.S. exports and domestic production. And as I have noted, the available evidence suggested that overall economic growth in the third quarter remained moderate.

However, downside risks to both household and business spending had clearly increased over the period since the Committee's previous meeting. Notably, the weak housing market, somewhat downbeat consumer sentiment, and slower growth in private-sector employment increased the likelihood that consumption spending would slow in coming quarters. Participants at the September meeting also reported somewhat greater caution in the outlooks of their business contacts. Financial market conditions were expected to improve slowly at best; and even if conditions began to normalize, credit would likely remain noticeably tighter for many borrowers than had been the case during the summer. Furthermore, any weakening in the economy could itself have a negative effect on still-fragile credit markets, possibly leading credit conditions to tighten further.
Regarding the other half of its mandate, to promote price stability, the Committee noted some improvement over the past year in measures of the trend component of inflation, such as core inflation. Moreover, slower growth in aggregate demand would help to ease pressure on resources. But inflation risks remained, including still-high levels of resource utilization and elevated prices for oil and other commodities. The Committee agreed that continued close attention to inflation developments was warranted. Overall, given the great difficulty of knowing how financial conditions would evolve or the extent of their effect on the economy, Committee members judged the level of uncertainty in the outlook to be unusually high.

As you know, the Committee chose to cut its target for the federal funds rate by 50 basis points at the September meeting. This action was intended to help offset the tightening of credit conditions resulting from the financial turmoil. Risk-management considerations also played a role in the decision, given the possibility that the housing correction and tighter credit could presage a broader weakening in economic conditions that would be difficult to arrest. By doing more sooner, policy might be able to forestall some part of the potential adverse effects of the disruptions in financial markets. As most of the meeting participants saw growth likely to run below trend for a while and with the incoming inflation data on the favorable side, the risks to inflation from this action seemed acceptable, especially as the Committee was prepared to reverse the policy easing if inflation pressures proved stronger than expected.

Since the September meeting, the incoming data have borne out the Committee's expectations of further weakening in the housing market, as sales have fallen further and new residential construction has continued to decline rapidly. The further contraction in housing is likely to be a significant drag on growth in the current quarter and through early next year. However, it remains too early to assess the extent to which household and business spending will be affected by the weakness in housing and the tightening in credit conditions. We will be following indicators of household and business spending closely as we update our outlook for near-term growth. The evolution of employment and labor income also will bear watching, as gains in real income support consumer spending even if the weakness in house prices adversely affects homeowners' equity. The labor market has shown some signs of cooling, but these are quite tentative so far, and real income is still growing at a solid pace.

On the inflation side, prices of crude oil and other commodities have increased somewhat in recent weeks, and the foreign exchange value of the dollar has weakened. However, overall, the limited data that we have received since the September FOMC meeting are consistent with continued moderate increases in consumer prices. As the Committee noted in its post-meeting statement, we will continue to monitor inflation developments carefully.

It does seem that, together with our earlier actions to enhance liquidity, the September policy action has served to reduce some of the pressure in financial markets, although considerable strains remain. From the perspective of the near-term economic outlook, the improved functioning of financial markets is a positive development in that it increases the likelihood of achieving moderate growth with price stability. However, in such situations, one must also take seriously the possibility that policy actions that have the effect of reducing stress in financial markets may also promote excessive risk-taking and thus increase the probability of future crises. As I indicated in earlier remarks, it is not the responsibility of the Federal Reserve--nor would it be appropriate--to protect lenders and investors from the consequences of their financial decisions. But developments in financial markets can have broad economic effects felt by many outside the markets, and the Federal Reserve must take those effects into account when determining policy. In particular, as I have emphasized, the Federal Reserve has a mandate from the Congress to promote maximum employment and stable prices, and its monetary policy actions will be chosen so as to best meet that mandate.
Indeed, although the Federal Reserve can seek to provide a more stable economic background that will benefit both investors and non-investors, the truth is that it can hardly insulate investors from risk, even if it wished to do so. Developments over the past few months reinforce this point. Those who made bad investment decisions lost money. In particular, investors in subprime mortgages have sustained significant losses, and many of the mortgage companies that made those loans have failed. Moreover, market participants are learning and adjusting—for example, by insisting on better mortgage underwriting and by performing better due diligence on structured credit products. Rather than becoming more crisis-prone, the financial system is likely to emerge from this episode healthier and more stable than before.

**Conclusion**

I have sought this evening to put recent financial market developments in context and to explain the thinking behind the steps taken by the Federal Reserve. This has been a challenging period. Conditions in financial markets have shown some improvement since the worst of the storm in mid-August, but a full recovery of market functioning is likely to take time, and we may well see some setbacks. In particular, investors are continuing to reassess the risks they face and have not yet fully regained confidence in their ability to accurately price certain types of securities. The ultimate implications of financial developments for the cost and availability of credit, and thus for the broader economy, remain uncertain.

In coming months, the Federal Reserve, together with other agencies both here and abroad, will perform comprehensive reviews of recent events to better understand the episode and to draw lessons for the future. For now, the Federal Reserve will continue to watch the situation closely and will act as needed to support efficient market functioning and to foster sustainable economic growth and price stability.

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**Footnotes**

1. Estimates of delinquencies are based on data from First American LoanPerformance. [Return to text](#)

2. Jumbo mortgages are those mortgages for which the principal value does not conform to the limit set annually by Fannie Mae and Freddie Mac for loans they will purchase; the amount for 2007 is $417,000. Jumbo loans are thus a type of "nonconforming" loan. Prime loans are those made to borrowers with good credit records. [Return to text](#)

Speech

Chairman Ben S. Bernanke

At the 32nd Annual Economic Policy Conference, Federal Reserve Bank of St. Louis
(via videoconference)

October 19, 2007

Monetary Policy under Uncertainty

Bill Poole's career in the Federal Reserve System spans two decades separated by a quarter of
a century. From 1964 to 1974 Bill was an economist on the staff of the Board's Division of
Research and Statistics. He then left to join the economics faculty at Brown University,
where he stayed for nearly twenty-five years. Bill rejoined the Fed in 1998 as president of the
Federal Reserve Bank of St. Louis, so he is now approaching the completion of his second
decade in the System.

As it happens, each of Bill's two decades in the System was a time of considerable research
and analysis on the issue of how economic uncertainty affects the making of monetary policy,
a topic on which Bill has written and spoken many times. I would like to compare the state of
knowledge on this topic during Bill's first decade in the System with what we have learned
during his most recent decade of service. The exercise is interesting in its own right and has
the added benefit of giving me the opportunity to highlight Bill's seminal contributions in this
line of research.

Developments during the First Period: 1964-74

In 1964, when Bill began his first stint in the Federal Reserve System, policymakers and
researchers were becoming increasingly confident in the ability of monetary and fiscal policy
to smooth the business cycle. From the traditional Keynesian perspective, which was the
dominant viewpoint of the time, monetary policy faced a long-term tradeoff between inflation
and unemployment that it could exploit to keep unemployment low over an indefinitely long
period at an acceptable cost in terms of inflation. Moreover, improvements in econometric
modeling and the importation of optimal-control methods from engineering were seen as
having the potential to tame the business cycle.

Of course, the prevailing optimism had its dissenters, notably Milton Friedman. Friedman
believed that the inherent complexity of the economy, the long and variable lags with which
monetary policy operates, and the political and bureaucratic influences on central bank
decisionmaking precluded policy from fine tuning the level of economic activity. Friedman
advocated the use of simple prescriptions for monetary policy--such as the \( k \) percent money
growth rule--which he felt would work reasonably well on average while avoiding the pitfalls
of attempting to fine-tune the economy in the face of pervasive uncertainty (Friedman, 1968).

Other economists were more optimistic than Friedman about the potential benefits of activist
policies. Nevertheless, they recognized that the fundamental economic uncertainties faced by
policymakers are a first-order problem and that improving the conduct of policy would
require facing that problem head on. During this decade, those researchers as well as sympathetic policymakers focused especially on three areas of economic uncertainty: the current state of the economy, the structure of the economy (including the transmission mechanism of monetary policy), and the way in which private agents form expectations about future economic developments and policy actions.

Uncertainty about the current state of the economy is a chronic problem for policymakers. At best, official data represent incomplete snapshots of various aspects of the economy, and even then they may be released with a substantial lag and be revised later. Apart from issues of measurement, policymakers face enormous challenges in determining the sources of variation in the data. For example, a given change in output could be the result of a change in aggregate demand, in aggregate supply, or in some combination of the two.

As most of my listeners know, Bill Poole tackled these issues in a landmark 1970 paper, which examined how uncertainty about the state of the economy affects the choice of the operating instrument for monetary policy (Poole, 1970). In the simplest version of his model, Bill assumed that the central bank could choose to specify its monetary policy actions in terms of a particular level of a monetary aggregate or a particular value of a short-term nominal interest rate. If the central bank has only partial information about disturbances to money demand and to aggregate demand, Bill showed that the optimal choice of policy instrument depends on the relative variances of the two types of shocks. In particular, using the interest rate as the policy instrument is the better choice when aggregate demand is relatively stable but money demand is unstable, with money growth being the preferable policy instrument in the opposite case.

Bill was also a pioneer in formulating simple feedback rules that established a middle ground between the mechanical approach advocated by Friedman and the highly complex prescriptions of optimal-control methods. For example, Bill wrote a Federal Reserve staff paper titled "Rules-of-Thumb for Guiding Monetary Policy" (Poole, 1971). Because his econometric analysis of the available data indicated that money demand was more stable than aggregate demand, Bill formulated a simple rule that adjusted the money growth rate in response to the observed unemployment rate. Bill was also practical in noting the pitfalls of mechanical adherence to any particular policy rule; in this study, for example, he emphasized that the proposed rule was not intended "to be followed to the last decimal place or as one that is good for all time [but] . . . as a guide--or as a benchmark--against which current policy may be judged" (p. 152).

Uncertainty about the structure of the economy also received attention during that decade. For example, in his elegant 1967 paper, Bill Brainard showed that uncertainty about the effect of policy on the economy may imply that policy should respond more cautiously to shocks than would be the case if this uncertainty did not exist. Brainard's analysis has often been cited as providing a theoretical basis for the gradual adjustment of policy rates of most central banks. Alan Blinder has written that the Brainard result was "never far from my mind when I occupied the Vice Chairman's office at the Federal Reserve. In my view, . . . a little stodginess at the central bank is entirely appropriate" (Blinder, 1998, p. 12).

A key source of uncertainty became evident in the late 1960s and 1970s as a result of highly contentious debates about the formation of expectations by households and firms. Friedman (1968) and Ned Phelps (1969) were the first to highlight the central importance of expectations formation, arguing that the private sector's expectations adjust in response to monetary policy and therefore preclude any long-run tradeoff between unemployment and inflation. However, Friedman and Phelps retained the view that monetary policy could exert substantial effects on the real economy over the short to medium run. In contrast, Robert
Lucas and others reached more dramatic conclusions, arguing that only unpredictable movements in monetary policy can affect the real economy and concluding that policy has no capacity to smooth the business cycle (Lucas, 1972; Sargent and Wallace, 1975). Although these studies highlighted the centrality of inflation expectations for the analysis of monetary policy, the profession did not succeed in reaching any consensus about how those expectations evolve, especially in an environment of ongoing structural change.

**Developments during the Second Period: 1998-2007**

Research during the past ten years has been very fruitful in expanding the profession's understanding of the implications of uncertainty for the design and conduct of monetary policy.

On the issue of uncertainty about the state of the economy, Bill's work continues to provide fundamental insights regarding the choice of policy instrument. Money demand relationships were relatively stable through the 1950s and 1960s, but, in the wake of dramatic innovations in banking and financial markets, short-term money-demand relationships became less predictable, at least in the United States. As a result, consistent with the policy implication of Bill's 1970 model, the Federal Reserve (like most other central banks) today uses the overnight interbank rate as the principal operating target of monetary policy. Bill's research also raised the possibility of specifying the operating target in other ways, for example, as an index of monetary or financial conditions; and it provided a framework for evaluating the usefulness of intermediate targets--such as core inflation or the growth of broad money--that are only indirectly controlled by policy.

More generally, the task of assessing the current state of the economy remains a formidable challenge. Indeed, our appreciation of that challenge has been enhanced by recent research using real time data sets. For example, Athanasios Orphanides has shown that making such real-time assessments of the sustainable levels of economic activity and employment is considerably more difficult than estimating those levels retrospectively. His 2002 study of U.S. monetary policy in the 1970s shows how mismeasurement of the sustainable level of economic activity can lead to serious policy mistakes.

On a more positive note, economists have made substantial progress over the past decade in developing new econometric methods for summarizing the information about the current state of the economy contained in a wide array of economic and financial market indicators (Svensson and Woodford, 2003). Dynamic-factor models, for example, provide a systematic approach to extracting information from real-time data at very high frequencies. These approaches have the potential to usefully supplement more informal observation and human judgment (Stock and Watson, 2002; Bernanke and Boivin, 2003; and Giannone, Reichlin, and Small, 2005).

The past decade has also witnessed significant progress in analyzing the policy implications of uncertainty regarding the structure of the economy. New work addresses not only uncertainty about the values of specific parameters in a given model of the economy but also uncertainty about which of several competing models provides the best description of reality. Some research has attacked those problems using Bayesian optimal-control methods (Brock, Durlauf, and West, 2003). The approach requires the specification of an explicit objective function as well as of the investigator's prior probabilities over the set of plausible models and parameter values. The Bayesian approach provides a useful benchmark for policy in an environment of well-defined sources of uncertainty about the structure of the economy, and the resulting policy prescriptions give relatively greater weight to outcomes that have a higher probability of being realized. In contrast, other researchers, such as Lars Hansen and Thomas
Sargent, have developed robust-control methods--adapted from the engineering literature--that are aimed at minimizing the consequences of worst-case scenarios, including those with only a low probability of being realized (Hansen and Sargent, 2007).

An important practical implication of all this recent literature is that Brainard's attenuation principle may not always hold. For example, when the degree of structural inertia in the inflation process is uncertain, the optimal Bayesian policy tends to involve a more pronounced response to shocks than would be the case in the absence of uncertainty (Söderstrom, 2002). The concern about worst-case scenarios emphasized by the robust-control approach may likewise lead to amplification rather than attenuation in the response of the optimal policy to shocks (Giannoni, 2002; Onatski and Stock, 2002; and Tetlow and von zur Muehlen, 2002). Indeed, intuition suggests that stronger action by the central bank may be warranted to prevent particularly costly outcomes.

Although Bayesian and robust-control methods provide insights into the nature of optimal policy, the corresponding policy recommendations can be complex and sensitive to the set of economic models being considered. A promising alternative approach--reminiscent of the work that Bill Poole did in the 1960s--focuses on simple policy rules, such as the one proposed by John Taylor, and compares the performance of alternative rules across a range of possible models and sets of parameter values (Levin, Wieland, and Williams, 1999 and 2003). That approach is motivated by the notion that the perfect should not be the enemy of the good; rather than trying to find policies that are optimal in the context of specific models, the central bank may be better served by adopting simple and predictable policies that produce reasonably good results in a variety of circumstances.

Given the centrality of inflation expectations for the design of monetary policy, a key development over the past decade has been the burgeoning literature on the formation of these expectations in the absence of full knowledge of the underlying structure of the economy. For example, considerations of how the public learns about the economy and the objectives of the central bank can affect the form of the optimal monetary policy (Gaspar, Smets, and Vestin, 2006; Orphanides and Williams, 2007). Furthermore, when the public is unsure about the central bank's objectives, even greater benefits may accompany achieving a stable inflation rate, as doing so may help anchor the public's inflation expectations. These studies also show why central bank communications is a key component of monetary policy; in a world of uncertainty, informing the public about the central bank's objectives, plans, and outlook can affect behavior and macroeconomic outcomes (Bernanke, 2004; and Orphanides and Williams, 2005).

**Conclusion**

Uncertainty--about the state of the economy, the economy's structure, and the inferences that the public will draw from policy actions or economic developments--is a pervasive feature of monetary policy making. The contributions of Bill Poole have helped refine our understanding of how to conduct policy in an uncertain environment. Notably, we now appreciate that policy decisions under uncertainty must take into account a range of possible scenarios about the state or structure of the economy, and those policy decisions may look quite different from those that would be optimal under certainty. For example, policy actions may be attenuated or augmented relative to the "no-uncertainty benchmark," depending on one's judgments about the possible outcomes and the costs associated with those outcomes. The fact that the public is uncertain about and must learn about the economy and policy provides a reason for the central bank to strive for predictability and transparency, avoid overreacting to current economic information, and recognize the challenges of making real-time assessments of the sustainable level of real economic activity and employment. Most
fundamentally, our discussions of the pervasive uncertainty that we face as policymakers is a powerful reminder of the need for humility about our ability to forecast and manage the future course of the economy.

References


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**Footnotes**

1. A recent example is Faust and Wright (2007). [Return to text]

2. Bernanke (2007) and the references therein.
Testimony

Chairman Ben S. Bernanke

The economic outlook

Before the Joint Economic Committee, U.S. Congress

http://www.federalreserve.gov/newsevents/testimony/bernanke20071108a.htm

November 8, 2007

Chairman Schumer, Vice Chairman Maloney, Representative Saxton, and other members of the Committee, thank you for inviting me here this morning to present an update on the economic situation and outlook.

Developments in Financial Markets

Since I last appeared before this Committee in March, the U.S. economy has performed reasonably well. On preliminary estimates, real gross domestic product (GDP) grew at an average pace of nearly 4 percent over the second and third quarters despite the ongoing correction in the housing market. Core inflation has improved modestly, although recent increases in energy prices will likely lead overall inflation to rise for a time.

However, the economic outlook has been importantly affected by recent developments in financial markets, which have come under significant pressure in the past few months. The financial turmoil was triggered by investor concerns about the credit quality of mortgages, especially subprime mortgages with adjustable interest rates. The continuing increase in the rate of serious delinquencies for such mortgages reflects in part a decline in underwriting standards in recent years as well as softening house prices. Delinquencies on these mortgages are likely to rise further in coming quarters as a sizable number of recent-vintage subprime loans experience their first interest rate resets. I will have more to say about this problem and its implications for homeowners later in my testimony.

At one time, most mortgages were originated and held by depository institutions. Today, however, mortgages are commonly bundled together into mortgage-backed securities or structured credit products, rated by credit-rating agencies, and then sold to investors. As mortgage losses have mounted, investors have questioned the reliability of credit ratings, especially those of structured products. Because many investors had not developed the capacity to perform independent evaluations of these often-complex instruments, the loss of confidence in the credit ratings, together with uncertainty about developments in the housing market, led to a sharp decline in demand for these products. Since July, few securities backed by subprime mortgages have been issued.

Although the problems with subprime mortgages initiated the financial turmoil, credit concerns quickly spilled over into a number of other areas. Importantly, the secondary market for securities backed by prime jumbo mortgages also contracted, and the issuance of such securities has declined significantly. Prime jumbo loans are still being made to
prospective home purchasers, but they are at higher spreads and have more-restrictive terms. Concerns about mortgage-backed securities and structured credit products (even those unrelated to mortgages) also greatly reduced investor appetite for asset-backed commercial paper, although that market has improved somewhat recently. In the area of business credit, investors shied away from financing leveraged buyouts and from purchasing speculative-grade corporate bonds. And some larger banks, concerned about potentially large and difficult-to-predict draws on their liquidity and balance sheet capacity, became less willing to provide funding to their customers or to each other.

To be sure, the recent developments may well lead to a healthier financial system in the medium to long term: Increased investor scrutiny of structured credit products is likely to lead ultimately to greater transparency in these products and to better differentiation among assets of varying quality. Investors have also become more cautious and are demanding greater compensation for bearing risk. In the short term, however, these events do imply a greater measure of financial restraint on economic growth as credit becomes more expensive and difficult to obtain.

**Federal Reserve Policy Actions**

At the height of the recent financial turmoil, the Federal Reserve took a number of steps to help markets return to more orderly functioning. The Fed increased liquidity in short-term money markets in early August through larger-than-normal open market operations. And on August 17, the Federal Reserve Board cut the discount rate—the rate at which it lends directly to banks—50 basis points, or 1/2 percentage point, and subsequently took several additional measures. These efforts to provide liquidity appear to have been helpful on the whole, but the functioning of a number of important markets remained impaired.

The turmoil in financial markets significantly affected the Federal Reserve's outlook for the broader economy. Indeed, in a statement issued simultaneously with the Board's August 17 announcement of the cut in the discount rate, the Federal Open Market Committee (FOMC) noted that the downside risks to economic growth had increased appreciably.

The Committee took further action at its next scheduled meeting, on September 18, when it cut its target for the federal funds rate 50 basis points. This action was intended as a counterbalance to the tightening of credit conditions and to address in a preemptive fashion some of the risks that financial developments posed to the broader economy.

The Committee met most recently on October 30-31. The data reviewed at that meeting suggested that growth in the third quarter had been solid—at a 3.9 percent rate, according to the initial estimate by the Bureau of Economic Analysis. Residential construction declined sharply during the quarter, as expected, subtracting about 1 percentage point from overall growth. However, the GDP report provided scant evidence of spillovers from housing to other components of final demand: Strong growth in consumer spending was supported by gains in employment and income, and businesses increased their capital spending at a solid pace. A strong global economy stimulated foreign demand for U.S.-produced goods and services, as foreign trade contributed nearly 1 percentage point to the growth of real output last quarter.

Looking forward, however, the Committee did not see the recent growth performance as likely to be sustained in the near term. Financial conditions had improved somewhat after the September FOMC action, but the market for nonconforming mortgages remained significantly impaired, and survey information suggested that banks had tightened terms and standards for a range of credit products over recent months. In part because of the reduced availability of mortgage credit, the contraction in housing-related activity seemed likely to
intensify. Indicators of overall consumer sentiment suggested that household spending would grow more slowly, a reading consistent with the expected effects of higher energy prices, tighter credit, and continuing weakness in housing. Most businesses appeared to enjoy relatively good access to credit, but heightened uncertainty about economic prospects could lead business spending to decelerate as well. Overall, the Committee expected that the growth of economic activity would slow noticeably in the fourth quarter from its third-quarter rate. Growth was seen as remaining sluggish during the first part of next year, then strengthening as the effects of tighter credit and the housing correction began to wane.

The Committee also saw downside risks to this projection: One such risk was that financial market conditions would fail to improve or even worsen, causing credit conditions to become even more restrictive than expected. Another risk was that, in light of the problems in mortgage markets and the large inventories of unsold homes, house prices might weaken more than expected, which could further reduce consumers' willingness to spend and increase investors' concerns about mortgage credit.

The Committee projected overall and core inflation to be in a range consistent with price stability next year. Supporting this view were modest improvements in core inflation over the course of the year, inflation expectations that appeared reasonably well anchored, and futures quotes suggesting that investors saw food and energy prices coming off their recent peaks next year. But the inflation outlook was also seen as subject to important upside risks. In particular, prices of crude oil and other commodities had increased sharply in recent weeks, and the foreign exchange value of the dollar had weakened. These factors were likely to increase overall inflation in the short run and, should inflation expectations become unmoored, had the potential to boost inflation in the longer run as well.

Weighing its projections for growth and inflation, as well as the risks to those projections, the FOMC on October 31 reduced its target for the federal funds rate an additional 25 basis points, to 4-1/2 percent. In the Committee's judgment, the cumulative easing of policy over the past two months should help forestall some of the adverse effects on the broader economy that might otherwise arise from the disruptions in financial markets and promote moderate growth over time. Nonetheless, the Committee recognized that risks remained to both of its statutory objectives of maximum employment and price stability. All told, it was the judgment of the FOMC that, after its action on October 31, the stance of monetary policy roughly balanced the upside risks to inflation and the downside risks to growth.

In the days since the October FOMC meeting, the few data releases that have become available have continued to suggest that the overall economy remained resilient in recent months. However, financial market volatility and strains have persisted. Incoming information on the performance of mortgage-related assets has intensified investors' concerns about credit market developments and the implications of the downturn in the housing market for economic growth. In addition, further sharp increases in crude oil prices have put renewed upward pressure on inflation and may impose further restraint on economic activity. The FOMC will continue to carefully assess the implications for the outlook of the incoming economic data and financial market developments and will act as needed to foster price stability and sustainable economic growth.

Helping Distressed Subprime Borrowers

I would like to say a few words about actions being taken to help homeowners who have fallen behind on their mortgage payments or seem likely to do so. As I mentioned, delinquencies will probably rise further for borrowers who have a subprime mortgage with an adjustable interest rate, as many of these mortgages will soon see their rates reset at
significantly higher levels. Indeed, on average from now until the end of next year, nearly 450,000 subprime mortgages per quarter are scheduled to undergo their first interest rate reset. Relative to past years, avoiding the payment shock of an interest rate reset by refinancing the mortgage will be much more difficult, as home prices have flattened out or declined, thereby reducing homeowners’ equity, and lending terms have tightened. Should the rate of foreclosure rise proportionately, communities as well as individual borrowers would be hurt because concentrations of foreclosures tend to reduce property values in surrounding areas. A sharp increase in foreclosed properties for sale could also weaken the already struggling housing market and thus, potentially, the broader economy.

Home losses through foreclosure can be reduced if financial institutions work with borrowers who are having difficulty meeting their mortgage payment obligations. In recent months, the Federal Reserve and other banking agencies have issued statements calling on mortgage lenders and mortgage servicers to pursue prudent loan workouts.¹ Our contacts with the mortgage industry suggest that servicers recently have stepped up their efforts to work with borrowers facing financial difficulties or an imminent rate reset. Some servicers have been proactive about contacting borrowers who have missed payments or face resets, as experience shows that addressing the problem early increases the odds of a successful outcome.

Foreclosure cannot always be avoided, but in many cases loss-mitigation techniques that preserve homeownership are less costly than foreclosure. To help keep borrowers in their homes, servicers have been offering assistance with repayment plans, temporary forbearance, and loan modifications. Comprehensive data on the success of these efforts to avert foreclosures are not available, but my sense is that there is scope for servicers to further increase their loss-mitigation efforts. The development of standardized approaches to workouts and the sharing of best practices can help increase the scale of the effort, even if, ultimately, workouts must be undertaken loan by loan. Although workouts are to be encouraged, regulators must be alert to ensure that they are done in ways that protect consumers’ interests and do not disguise lenders' losses or impair safety and soundness.

The Federal Reserve has been participating in efforts by community groups to help homeowners avoid foreclosure. For example, Governor Kroszner of the Federal Reserve Board serves as a director of NeighborWorks America, a nonprofit organization that has been helping thousands of borrowers facing current or potential distress to obtain assistance from their lenders, their servicers, or trusted counselors through a hotline. The Federal Reserve Board's staff has been working with consumer and community affairs groups throughout the Federal Reserve System to help identify localities that are most at risk of high foreclosures, with the intent to help local groups better focus their outreach efforts to borrowers. Other contributions include foreclosure prevention programs, such as the Home Ownership Preservation Initiative, which the Federal Reserve Bank of Chicago helped to initiate, and efforts by Reserve Banks to convene workshops for stakeholders to develop community-based solutions to mortgage delinquencies in their areas. The Federal Reserve System is also engaged in research and analysis that should help inform policy responses to these issues.

The Congress is also focused on reducing homeowners' risk of foreclosure. One statutory change that could help is the modernization of programs administered by the Federal Housing Administration (FHA). The FHA has considerable experience helping low- and moderate-income households obtain home financing, but it has lost market share in recent years, partly because borrowers have moved toward nontraditional products with more-flexible and quicker underwriting and processing and partly because of a cap on the maximum loan value that can be insured. In modernizing the FHA, the Congress might encourage joint efforts with the private sector that expedite the refinancing of subprime loans held by creditworthy borrowers facing resets. It might also consider granting the agency the flexibility to design
products that improve affordability through such features as variable maturities or shared appreciation. Also, the FHA could provide more refinancing options for riskier households if it could tailor the premiums it charges for mortgage insurance to the risk profile of the borrower.

As I have discussed in earlier testimony, the Federal Reserve is taking steps to avoid subprime lending problems from recurring while preserving responsible subprime lending. In coordination with other federal supervisory agencies and the Conference of State Banking Supervisors (CSBS), we have issued principles-based underwriting guidance on subprime mortgages to help ensure that borrowers obtain loans that they can afford to repay and have the opportunity to refinance without prepayment penalty for a reasonable period before the first interest rate reset. In addition, together with the Office of Thrift Supervision, the Federal Trade Commission, the CSBS, and the American Association of Residential Mortgage Regulators, we have launched a pilot program aimed at strengthening reviews of consumer protection compliance at selected nondepository lenders with significant subprime mortgage operations.

Finally, using the authority granted us by the Congress under the Home Ownership and Equity Protection Act, we are on schedule to propose rules by the end of this year to address unfair or deceptive mortgage lending practices. These rules would apply to subprime loans offered by any mortgage lender. We are looking closely at practices such as prepayment penalties, failure to escrow for taxes and insurance, stated-income and low-documentation lending, and failure to give adequate consideration to a borrower's ability to repay. Using our authority under the Truth in Lending Act (TILA), we expect that we will soon propose rules to curtail abuses in mortgage advertising and to ensure that consumers receive mortgage disclosures at a time when the information is likely to be the most useful to them. We are also engaged in a rigorous, broader review of the TILA rules for mortgage loans, which will make use of extensive consumer testing of disclosures.

Thank you. I would be pleased to answer your questions.

Footnotes

Speech
Chairman Ben S. Bernanke
At the Cato Institute 25th Annual Monetary Conference, Washington, D.C.
November 14, 2007

Federal Reserve Communications

The more fully the public understands what the function of the Federal Reserve System is, and on what grounds its policies and actions are based, the simpler and easier will be the problems of credit administration in the U.S.


Montagu Norman, the Governor of the Bank of England from 1921 to 1944, reputedly took as his personal motto, "Never explain, never excuse." Norman's aphorism exemplified how he and many of his contemporaries viewed the making of monetary policy—as an arcane and esoteric art, best practiced out of public view. Many central bankers of Norman's time (and, indeed, well into the postwar period) believed that a certain mystique attached to their activities and that allowing the public a glimpse of the inner workings would only usurp the prerogatives of insiders and reduce, if not grievously damage, the effectiveness of policy.

Norman's perspective on central banking now seems decidedly quaint. Over the past few decades, central banks around the world have worked assiduously to become more open about their activities. In fact, Norman's own institution, the Bank of England, has in recent years been a leading exponent of increased transparency in central banking. Monetary policy makers have adopted a range of methods to improve their communication with the public, including timely announcements of policy actions, expanded testimony before members of the legislature, the release of minutes of policy meetings, frequent public speeches, and the regular publication of reports about the economy and monetary policy. This increased openness is a welcome development for several reasons. Most importantly, monetary policy makers are public servants whose decisions affect the life of every citizen; consequently, in a democratic society, they have a responsibility to give the people and their elected representatives a full and compelling rationale for the decisions they make. Good communications are a prerequisite if central banks are to maintain the democratic legitimacy and independence that are essential to sound monetary policy making.

In addition, a considerable amount of evidence indicates that central bank transparency increases the effectiveness of monetary policy and enhances economic and financial performance in several ways. First, improving the public's understanding of the central bank's objectives and policy strategies reduces economic and financial uncertainty and thereby allows businesses and households to make more-informed decisions. Second, if practitioners in financial markets gain a better understanding of how policy is likely to respond to incoming information, asset prices and bond yields will tend to respond to economic data in ways that further the central bank's policy objectives. For example, if
market participants understand that arriving information about the economy increases the likelihood of certain policy actions, then market interest rates will tend to move in a way that reinforces the expected actions, effectively supporting the goals of the central bank. Third, clarity about the central bank's policy objectives and strategy may help anchor the public's long-term inflation expectations, which can substantially improve the efficacy of policy and the overall functioning of the economy. Finally, open discussion of the central bank's analyses and forecasts invites valuable input and feedback from the public.

The benefits of an open and accountable policymaking process have spurred the Federal Reserve, along with other major central banks, to take a number of actions over the years to increase its transparency. Appropriately, given the unique position of the Federal Reserve and the sensitivity of financial markets to its communications, these steps have generally been incremental in nature; but, taken together, they have substantially increased the ability of the American public to understand and to anticipate monetary policy decisions.

The Congress has also long been aware of the importance of Federal Reserve transparency and accountability; in particular, a series of resolutions and laws passed in the 1970s set clear policy objectives for the Federal Reserve and required it to provide regular reports and testimony to the Congress.\footnote{Since 1975, the Federal Reserve has presented testimony twice each year to the Congress on the conduct of monetary policy. These semiannual presentations have become an important vehicle for the U.S. central bank to make known its views on the outlook and on the appropriate stance of policy. Other notable milestones in the Federal Reserve's progress toward greater openness include: in 1979, the first release of semiannual economic projections; in 1983, the first publication of the Beige Book, which summarizes information about economic conditions received from the Federal Reserve System's business contacts; in 1994, the decision to release a postmeeting statement when policy actions had been taken; in 2000, the beginning of the practice of issuing a statement after each meeting of the Federal Open Market Committee (FOMC) and including in the statement an assessment of the balance of risks to the Committee's objectives; in 2002, adding the FOMC roll call vote to the postmeeting statement; and in 2005, the speeding up of the release of the minutes of FOMC meetings, from a delay of some six or seven weeks to just three weeks.}

In testimony to the Congress at the time of my nomination as Chairman, in 2005, I pledged to continue the trend toward greater openness sustained under Chairman Greenspan. In so doing, I stressed the importance of continuity with the policies and strategies that have served the American economy well. Any further changes, I promised, would come only pursuant to a consensus within the FOMC that those changes would enhance the Committee's ability to pursue its dual mandate of achieving maximum employment and price stability.

Toward that end, the FOMC has engaged in extensive deliberations over the past year or so to consider further steps toward greater transparency. Guided by a subcommittee chaired by Board Vice Chairman Donald Kohn, the FOMC reviewed the full range of our communications with the public.\footnote{As indicated in a statement issued by the FOMC today, these discussions have led to a decision to increase the frequency and expand the content of the publicly released economic projections that are made by Federal Reserve Board members and Reserve Bank presidents. As I mentioned, the Federal Reserve has published economic projections for almost thirty years, and, indeed, the Federal Reserve was the first major central bank to release such projections. Today's announcement builds on that foundation. In the remainder of my remarks I will describe the changes that we plan to make, and then explain why I believe that, collectively, they represent an important further step toward greater transparency.} In the remainder of my remarks I will describe the changes that we plan to make, and then explain why I believe that, collectively, they represent an important further step toward greater transparency.
Toward More Informative Economic Projections

Because monetary policy affects spending and inflation with a lag, policy decisions must be based on an assessment of medium-term economic prospects. Thus, the Committee cannot fully explain its policy decisions without sharing its economic outlook with the public and the Congress. To provide more-timely information about the evolving outlook, the Federal Reserve will release FOMC participants' economic projections four times each year, rather than twice each year as we have done previously.

Projections will continue to be released in February and July of each year to coincide with the semiannual Monetary Policy Report and the associated testimony to the Congress. Two additional sets of projections will be published in conjunction with the minutes of the FOMC meetings held around the beginnings of the second quarter and the fourth quarter of the year (in 2008, the April and October meetings). The first expanded set of projections will be released next week, on November 20, together with the minutes of the October FOMC meeting. The horizon of the projections will be extended from two years to three. The projections released next week will extend through 2010.

Each of the participants in the FOMC meeting—including the Federal Reserve Board members and all the Reserve Bank presidents—will, as in the past, provide projections for the growth of real gross domestic product (GDP), the unemployment rate, and core inflation (that is, inflation excluding the prices of food and energy items). In addition, participants will now provide their projections for overall inflation. Both overall and core inflation will continue to be based on the price index for personal consumption expenditures (PCE).

Projections will continue to be made independently by each FOMC participant under the assumption of "appropriate" monetary policy, that is, the future evolution of the federal funds rate judged by that participant to be the one most likely to foster economic outcomes that satisfy the Federal Reserve's dual mandate. Following past practice, we will publish the central tendency and the range of the projections for each variable and each year. We will also publish a comparison with the previous set of quarterly projections; a chart showing central tendencies and ranges for each variable; and charts showing the distribution of participants' projections and how that distribution has changed since the previous release.

Accompanying the numerical projections will be a discussion—a projections "narrative" if you will—that summarizes participants' views of the major forces shaping the outlook, discusses the sources of risk to that outlook, and describes the dispersion of views among policymakers. By providing a medium-term perspective, the narrative will complement the discussion of shorter-term developments contained in the minutes. We will also provide qualitative information about participants' views on both the uncertainty and the balance of risks surrounding the outlook, together with quantitative historical information on the typical range of projection errors. Of course, the specific material provided and its form of presentation may change over time as we gain experience and receive feedback.

Benefits of the Enhanced Projections

The enhanced projections will provide the public with several types of useful information. In particular, I find it helpful to think of the projections as functioning in three different ways: as a forecast, as a provisional plan, and as an evaluation of certain long-run features of the economy.
Most obviously, the projections reflect the economic forecasts of FOMC participants and as such should provide the public with greater and more-timely insight into the Committee's views of the economic outlook and the risks to that outlook. Of course, because our knowledge of the structure of the economy is incomplete and future economic disturbances are often unforeseeable, economic forecasting is a highly uncertain enterprise. The only economic forecast in which I have complete confidence is that the economy will not evolve along the precise path implied by our projections. Nevertheless, as I have already noted, because policy affects spending and inflation with a lag, Committee members have no choice other than to make medium-term forecasts--provisional and subject to uncertainty though they may be. Providing more information about these forecasts, including discussions of the factors underlying the forecasts and of FOMC participants' assessments of the risks to the Committee's objectives, should improve the public's understanding of the rationale for the current stance of monetary policy and any changes to that stance. The public will also be better able to judge the extent to which the Committee's rationale is reasonable and persuasive.

The projections also function as a plan for policy--albeit as a rough and highly provisional one. As I mentioned earlier, FOMC participants will continue to base their projections on the assumption of "appropriate" monetary policy. Consequently, the extended projections will provide a sense of the economic trajectory that Committee participants see as best fulfilling the Federal Reserve's dual mandate, given the initial conditions and the constraints posed by the structure of the economy. To illustrate, consider the question of the length of time over which a central bank should aim to restore price stability following an unwanted increase in inflation. A central bank that places weight on both employment and price stability, like the Federal Reserve, would not attempt to disinflate immediately or establish a fixed time frame for the restoration of price stability. Rather, the optimal expected time required for completing the disinflation would depend on a host of factors, including the size of the initial deviation from price stability, the initial state of the real economy (for example, the level of unemployment), whether the rise in inflation resulted from transitory or more persistent sources, the extent to which inflation expectations are well anchored, and so on. In circumstances in which disinflationary policy is necessary, the extended economic projections would make clear that the Federal Reserve is committed to maintaining price stability, but they would also provide some indications about what the Committee views as the most appropriate pace of disinflation, given the state of the economy and the requirements of the dual mandate. In like fashion, the speed at which policy aims to return the economy to its sustainable rates of growth and employment following a period of resource slack should depend in part on the nature and extent of inflation risks, among other considerations. More generally, the extended projections will convey additional information about the Committee's policy strategies and thus help augment the Committee's transparency, predictability, and accountability.

Finally, the extended projections will embody information about FOMC participants' evaluations of certain long-run features of the economy, evaluations determined both by the economy's structure and by the Committee's policy objectives. Because of the extension of the projection horizon to three years, participants' inflation projections will convey more information regarding their views about the measured rate of inflation that, in the long run, is consistent with the Committee's dual objectives of maximum employment and price stability. Were price stability the only objective mandated for the Federal Reserve, the FOMC presumably would strive to achieve zero inflation, properly measured--that is, the optimal measured inflation rate would deviate from zero on average only by the amount of the estimated measurement error in the preferred inflation index. But under the Federal Reserve's
dual mandate, the determination of the appropriate long-run inflation rate must take account of factors that may affect the efficient functioning of the economy at very low rates of inflation, such as the risk that the zero lower bound on nominal interest rates might hinder the effectiveness of monetary policy. Thus, the (properly measured) long-run inflation rate that best promotes the dual mandate is likely to be low but not zero.

Ultimately, households and businesses care about the overall, or "headline," rate of inflation; therefore, the FOMC should refer to an overall inflation rate when evaluating whether the Committee has met its mandated objectives over the long run. For that reason, the Committee has decided to publish projections for overall inflation as well as core inflation. In its policy statements and elsewhere, the Committee makes frequent reference to core inflation because, in light of the volatility of food and energy prices, core inflation can be a useful short-run indicator of the underlying trend in inflation. However, at longer horizons, where monetary policy has the greatest control over inflation, the overall inflation rate is the appropriate gauge of whether inflation is at a rate consistent with the dual mandate.

FOMC participants will continue to couch their inflation projections in terms of PCE inflation, rather than, say, inflation as measured by the consumer price index, because the PCE index is generally thought to provide the single most comprehensive and theoretically compelling measure of consumer prices. That said, no single measure of inflation is perfect, and the Committee will continue to monitor a range of measures when forming its view about inflation prospects.

The lengthening of the projection horizon will also allow the public to infer more about FOMC participants' current judgments about the rate of GDP growth and the unemployment rate that the economy can sustain in the long run. Over time, effective monetary policies foster rates of growth and unemployment close to their long-run sustainable rates. However, in contrast to inflation, which in the long run is determined by monetary policy, the rates of economic growth and unemployment that can be sustained in the long run are determined by many factors outside the control of central banks. Among these factors are the advance of technology, entrepreneurial activities, the growth in the size of the labor force, the rate at which workers acquire new skills, tax and regulatory policies, and the efficiency of labor markets in matching workers with positions. Consequently, the long-run sustainable rates of economic growth and unemployment should be viewed as constraints on what monetary policy can achieve and not as variables that policymakers can freely choose. In addition, estimates of sustainable rates of growth and unemployment have been shown to be highly uncertain at any point in time; and they may vary significantly over time in light of new information and changes in the structure of the economy. Thus, the longer-run projections of growth and unemployment should be treated with considerable caution.

**Relationship to Inflation Targeting**

As you may know, I have been an advocate of the monetary policy strategy known as inflation targeting, used in many countries around the world. Inflation targeting is characterized by two features: an explicit numerical target or target range for inflation and a high degree of transparency about forecasts and policy plans. The steps being taken by the Federal Reserve, I must emphasize, are intended only to improve our communication with the public; the conduct of policy itself will not change. Nonetheless, in light of the changes to communications we are undertaking, one might fairly ask how the Federal Reserve's approach relates to inflation targeting.

A superficial drawback of inflation targeting is its very name, which suggests a single-minded focus on inflation to the exclusion of other goals. In fact, the practice of monetary policy in
an inflation-targeting regime is not necessarily inconsistent with a dual mandate such as that given to the Federal Reserve; indeed, most if not all inflation-targeting central banks today practice "flexible" inflation targeting, meaning that they take account of other economic goals besides price stability--notably economic growth, employment, and financial stability--when making policy decisions. Moreover, a broad consensus exists among central banks, whether they have an explicit numerical target for inflation or not, that maintaining low and stable inflation over time is the best means by which monetary policy can promote economic efficiency and maximize the nation's economic welfare. Thus, at least since the stabilization of U.S. inflation in the 1980s, the Federal Reserve's approach to monetary policy has had much in common with that of central banks that describe themselves as inflation targeters.

Nevertheless, some aspects of inflation targeting may be less well suited to the Federal Reserve's mandate and policy practice. In particular, although inflation-targeting central banks certainly pay attention to economic growth and employment, their formal accountability is often largely couched only in terms of a price-stability objective. Likewise, the communication strategies of inflation-targeting central banks tend to be focused on the formal inflation objective and the horizon over which that objective will be achieved. As I have emphasized today, the Federal Reserve is legally accountable to the Congress for two objectives, maximum employment and price stability, on an equal footing. My colleagues and I strongly support the dual mandate and the equal weighting of objectives that it implies. Of course, as I have discussed, the Federal Reserve's influence over these objectives differs importantly in the long run: Monetary policy determines the long-run inflation rate, whereas the factors that influence the sustainable rates of growth and employment in the long run are largely outside the central bank's control. Still, over time, monetary policy must strive to foster rates of growth and employment close to their long-run sustainable rates. The Federal Reserve must thus be accountable for the effects of its policies on the real economy as well as on inflation. The enhanced projections that I have described today will provide additional information pertinent to both halves of the Federal Reserve's mandate.

At a more technical level, the Federal Reserve differs from most inflation-targeting central banks in that it provides information about the independent projections of Committee members rather than a single collective forecast. To some extent, that difference reflects the relatively large size of the FOMC and the geographic dispersion of Committee participants; those factors would make the development of a detailed consensus forecast quite difficult as a practical matter. But, as I will discuss briefly, such a diversity of viewpoints can enhance the quality of policy decisions.

The Diversity of the Committee

An important strength of the Federal Open Market Committee is its diversity. The Board members and Reserve Bank presidents who sit around the table at each meeting of the FOMC bring a wide range of perspectives to the deliberations that reflect the participants' professional backgrounds, the regions of the country with which they are most familiar, and their differing approaches to economic and policy analysis. The task participants face at each meeting is to forge a rough consensus regarding the outlook, the risks to the Committee's objectives, and the appropriate policy response. Of course, it is not always possible--indeed, it would be rather unusual--to come to a set of conclusions that fully represent the views of every participant. But the process of searching for common ground is itself an important aspect of how the Committee operates. Diversity of views drives the Committee to adopt an eclectic approach and thus serves to limit the risk that a single viewpoint or analytical framework might become unduly dominant.
The changes to the projections process announced today preserve the important role played by this diversity of perspectives. As I have noted, Committee participants will continue to produce individual projections that reflect their judgments about the state of the economy and their approaches to policy. From the internal perspective, I expect the more frequent sharing of projections and the additional information they contain will improve our discussions and policy debates. From the external perspective, the public will gain additional and more frequent information about both the central tendencies and diversity of participants' views. In particular, the additional narrative material that will accompany the numerical projections will illuminate both the consensus of opinion and the differences in judgments that may emerge.

Conclusion
The communications strategy of the Federal Reserve is a work in progress. I believe that the changes announced by the FOMC today are an important advance: The changes will provide a more-timely insight into the Committee's outlook, will help households and businesses better understand and anticipate how our policy decisions respond to incoming information, and will enhance our accountability for the decisions we make. But the changes are also evolutionary, in that they build on long-established practices; in that respect, they represent just one more step on the road toward greater transparency at the Federal Reserve. The Committee will continue to look for ways to improve the accountability and public understanding of U.S. monetary policy making.

Footnotes
1. The key measures were the House Concurrent Resolution 133, in 1975; the Federal Reserve Reform Act of 1977; and the Full Employment and Balanced Growth Act of 1978 (the Humphrey-Hawkins Act). Return to text
2. Gary Stern, president of the Federal Reserve Bank of Minneapolis, and Janet Yellen, president of the Federal Reserve Bank of San Francisco, were the other members of the subcommittee. Return to text
3. Economic projections were first published in 1979 to fulfill the Board's legislated requirement to report on "prospects for the future." Return to text
4. The projection period of the first three releases each year will cover the current year and the subsequent two years. The fourth release each year will add a year to the projection horizon. Thus, the first three sets of projections in 2008 will be for the period 2008 through 2010, whereas the fourth set of projections will extend to 2011. Return to text
5. Participants will no longer provide projections for the growth of nominal GDP. These now seem relatively less useful to the public, given participants' projections for real GDP growth and overall inflation. Return to text
6. The range for each variable in a given year includes all participants' projections, from lowest to highest, for that variable in the given year. The central tendencies exclude the three highest and three lowest projections for each variable in each year. Return to text
7. A Board staff paper discussing the historical forecasting record of the Federal Reserve and other institutions will be released on November 20, simultaneously with the release of the expanded projections. Return to text
8. The historical data we will provide on forecast errors will starkly illustrate this point.
Financial Markets and Central Banking

I thought it might be useful to start this session with a few thoughts on some of the issues facing central banks as they deal with the consequences of the recent turbulence in financial markets. This list is not comprehensive: I have concentrated on the issues associated with our roles as monetary policy makers and providers of liquidity--and even in that category I cannot address all the issues in the short time allotted.

Like every other period of financial turbulence, this one has been marked by considerable uncertainty. Central banks, other authorities, and private-market participants must make decisions based on analyses made with incomplete information and understanding. The repricing of assets is centered on relatively new instruments with limited histories--especially under conditions of stress; many of them are complex and have reacted to changing circumstances in unanticipated ways; and those newer instruments have been held by a variety of investors and intermediaries and traded in increasingly integrated global markets, thereby complicating the difficulty of seeing where risk is coming to rest.

Operating under this degree of uncertainty has many consequences. One is that the rules and criteria for taking particular actions seem a lot clearer in textbooks or to many commentators than they are to decisionmakers. For example, the extent to which institutions are facing liquidity constraints as opposed to capital constraints, or the moral hazard consequences of policy actions, are inherently ambiguous in real time. Another consequence of operating under a high degree of uncertainty is that, more than usually, the potential actions the Federal Reserve discusses have the character of "buying insurance" or managing risk--that is, weighing the possibility of especially adverse outcomes. The nature of financial market upsets is that they substantially increase the risk of such especially adverse outcomes while possibly having limited effects on the most likely path for the economy.

Moral Hazard

Central banks seek to promote financial stability while avoiding the creation of moral hazard. People should bear the consequences of their decisions about lending, borrowing, and managing their portfolios, both when those decisions turn out to be wise and when they turn out to be ill advised. At the same time, however, in my view, when the decisions do go poorly, innocent bystanders should not have to bear the cost.

In general, I think those dual objectives--promoting financial stability and avoiding the creation of moral hazard--are best reconciled by central banks' focusing on the
macroeconomic objectives of price stability and maximum employment. Asset prices will eventually find levels consistent with the economy producing at its potential, consumer prices remaining stable, and interest rates reflecting productivity and thrift. Such a strategy would not forestall the correction of asset prices that are out of line with fundamentals or prevent investors from sustaining significant losses. Losses were evident early in this decade in the case of many high-tech stocks, and they are in store for houses purchased at unsustainable prices and for mortgages made on the assumption that house prices would rise indefinitely.

To be sure, lowering interest rates to keep the economy on an even keel when adverse financial market developments occur will reduce the penalty incurred by some people who exercised poor judgment. But these people are still bearing the costs of their decisions and we should not hold the economy hostage to teach a small segment of the population a lesson.

The design of policies to achieve medium-term macroeconomic stability can affect the incentives for future risk-taking. To minimize moral hazard, central banks should operate as much as possible through general instruments not aimed at individual institutions. Open market operations fit this description, but so, too, can the discount window when it is structured to make credit available only to clearly solvent institutions in support of market functioning. The Federal Reserve's reduction of the discount rate penalty by 50 basis points in August followed this model. It was intended not to help particular institutions but rather to open up a source of liquidity to the financial system to complement open market operations, which deal with a more limited set of counterparties and collateral.

The Effects of Financial Markets on the Real Economy

Related developments in housing and mortgage markets are a root cause of the financial market turbulence. Expectations of ever-rising house prices along with increasingly lax lending standards, especially on subprime mortgages, created an unsustainable dynamic, which is now reversing. In that reversal, loss and fear of loss on mortgage credit have impaired the availability of new mortgage loans, which in turn has reduced the demand for housing and put downward pressures on house prices, which have further damped desires to lend. We are following this trajectory closely, but key questions for central banks, including the Federal Reserve, are, What is happening to credit for other uses, and how much restraint are financial market developments likely to exert on demands outside the housing sector?

Some broader repricing of risk is not surprising or unwelcome in the wake of unusually thin rewards for risk taking in several types of credit over recent years. And such a repricing in the form of wider spreads and tighter credit standards at banks and other lenders would make some types of credit more expensive and discourage some spending, developments that would require offsetting policy actions, other things being equal. Some restraint on demand from this process was a factor I took into account when I considered the economic outlook and the appropriate policy responses over the past few months.

An important issue now is whether concerns about losses on mortgages and some other instruments are inducing much greater restraint and thus constricting the flow of credit to a broad range of borrowers by more than seemed in train a month or two ago. In general, nonfinancial businesses have been in very good financial condition; outside of variable-rate mortgages, households are meeting their obligations with, to date, only a little increase in delinquency rates, which generally remain at low levels. Consequently, we might expect a moderate adjustment in the availability of credit to these key spending sectors. However, the increased turbulence of recent weeks partly reversed some of the improvement in market functioning over the late part of September and in October. Should the elevated turbulence persist, it would increase the possibility of further tightening in financial conditions for
households and businesses. Heightened concerns about larger losses at financial institutions now reflected in various markets have depressed equity prices and could induce more intermediaries to adopt a more defensive posture in granting credit, not only for house purchases, but for other uses as well.

**Liquidity Provision and Bank Funding Markets**

Central banks have been confronting several issues in the provision of liquidity and bank funding. When the turbulence deepened in early August, demands for liquidity and reserves pushed overnight rates in interbank markets above monetary policy targets. The aggressive provision of reserves by a number of central banks met those demands, and rates returned to targeted levels. In the United States, strong bids by foreign banks in the dollar-funding markets early in the day have complicated our management of this rate. And demands for reserves have been more variable and less flexible in an environment of heightened uncertainty, thereby adding to volatility. In addition, the Federal Reserve is limited in its ability to restrict the actual federal funds rate within a narrow band because we cannot, by law, pay interest on reserves for another four years.

At the same time, the term interbank funding markets have remained unsettled. This is evident in the much wider spread between term funding rates--like libor--and the expected path of the federal funds rate. This is not solely a dollar-funding phenomenon--it is being experienced in euro and sterling markets to different degrees. Many loans are priced off of these term funding rates, and the wider spreads are one development we have factored into our easing actions. Moreover, the behavior of these rates is symptomatic of caution among key marketmakers about taking and funding positions, and this is probably impeding the reestablishment of broader market trading liquidity. Conditions in term markets have deteriorated some in recent weeks. The deterioration partly reflects portfolio adjustments for the publication of year-end balance sheets. Our announcement on Monday of term open market operations was designed to alleviate some of the concerns about year-end pressures.

The underlying causes of the persistence of relatively wide-term funding spreads are not yet clear. Several factors probably have been contributing. One may be potential counterparty risk while the ultimate size and location of credit losses on subprime mortgages and other lending are yet to be determined. Another probably is balance sheet risk or capital risk--that is, caution about retaining greater control over the size of balance sheets and capital ratios given uncertainty about the ultimate demands for bank credit to meet liquidity backstop and other obligations. Favoring overnight or very short-term loans to other depositories and limiting term loans give banks the flexibility to reduce one type of asset if others grow or to reduce the entire size of the balance sheet to maintain capital leverage ratios if losses unexpectedly subtract from capital. Finally, banks may be worried about access to liquidity in turbulent markets. Such a concern would lead to increased demands and reduced supplies of term funding, which would put upward pressure on rates.

This last concern is one that central banks should be able to address. The Federal Reserve attempted to deal with it when, as I already noted, we reduced the penalty for discount window borrowing 50 basis points in August and made term loans available. The success of such a program lies not in loans extended but rather in the extent to which the existence of this facility helps reassure market participants. In that regard, I think we had some success, at least for a time. But the usefulness of the discount window as a source of liquidity has been limited in part by banks' fears that their borrowing might be mistaken for accessing emergency loans for troubled institutions. This "stigma" problem is not peculiar to the
Conclusion

In response to developments in financial markets, the Federal Reserve has adjusted the stance of monetary policy and the parameters of how we supply liquidity to banks and the financial markets. These adjustments have been designed to foster price stability and maximum sustainable growth and to restore better functioning of financial markets in support of these economic objectives. My discussion today was intended to highlight some of the issues we will be looking at in financial markets as we weigh the necessity of future actions. We will need to assess the implications of these developments, along with the vast array of incoming information on economic activity and prices, for the future path of the U.S. economy. As the Federal Open Market Committee noted at its last meeting, uncertainties about the economic outlook are unusually high right now. In my view, these uncertainties require flexible and pragmatic policymaking—\textit{nimble} is the adjective I used a few weeks ago. In the conduct of monetary policy, as Chairman Bernanke has emphasized, we will act as needed to foster both price stability and full employment.

Footnotes

1. These are my views and are not necessarily those of my colleagues on the Federal Open Market Committee.
Exchange Rate Pass-Through to Export Prices: Assessing Some Cross-Country Evidence

Robert J. Vigfusson, Nathan Sheets, and Joseph Gagnon

Abstract:
A growing body of empirical work has found evidence of a decline in exchange rate pass-through to import prices in a number of industrial countries. Our paper complements this work by examining pass-through from the other side of the transaction; that is, we assess the exchange rate sensitivity of export prices (denominated in the exporter's currency). We first sketch out a streamlined analytical model that highlights some key factors that determine pass-through. Using this model as reference, we find that the prices charged on exports to the United States are more responsive to the exchange rate than is the case for export prices to other destinations, which is consistent with results in the literature suggesting that import price pass-through in the U.S. market is relatively low. We also find that moves in the exchange rate sensitivity of export prices over time have been significantly affected by country and region-specific factors, including the Asian financial crisis (for emerging Asia), deepening integration with the United States (for Canada), and the effects of the 1992 ERM crisis (for the United Kingdom).

JEL classification: E31, F30, F41.

1. Introduction
Much has recently been written on exchange rate pass-through to import prices. Olivei (2002) and Marazzi, Sheets, Vigfusson, et al. (2005) have examined the exchange rate sensitivity of U.S. import prices; Otani, Shiratsuka, and Shirot (2003, 2005) have looked at exchange rate pass-through to Japanese import prices; and Campa and Goldberg (2002, 2005), Sekine (2006), Frankel, Parsley, and Wei (2005), and Ihrig, Marazzi, and Rothenberg (2006) estimate exchange rate pass-through to import prices for broad sets of countries.\textsuperscript{1} Taken together, the available empirical evidence (although still not fully settled) suggests that exchange rate pass-through to import prices has declined both in the United States and in a number of other industrial countries. Nevertheless, exactly how widespread this decline has been and what has driven the decline has not been completely pinned down.

As an alternative perspective on these issues, our paper extends this recent work by examining pass-through from the other side of the transaction—that is, we assess the exchange rate
sensitivity of export prices (denominated in the exporter's currency). We do this analysis with an eye toward the implications for import price pass-through in the destination markets, particularly the United States. If import prices in some countries have become less sensitive to the exchange rate, we should find evidence that export prices in some corresponding set of countries have become more sensitive to the exchange rate.

Our paper builds on the well-known pricing-to-market literature (see, for example, Knetter (1989, 1993) and Goldberg and Knetter (1997)), which studied the pricing behavior of exporting firms as a way of obtaining greater insight into exchange rate pass-through to import prices and, more generally, into the role of the exchange rate and trade prices in influencing cross-country trade flows and patterns of current account balances.

The major conclusions from our work are three-fold. First, we find evidence that the prices charged on exports to the U.S. market denominated in the exporting-country's currency are more sensitive to the exchange rate than is the case for multilateral export prices (i.e., the prices charged to all markets on average). A related result is that the dollar is found to play a unique role in the determination of the prices of internationally traded goods, apparently reflecting both the dollar's global prominence and the centrality of the U.S. marketplace.

Second, rolling regressions with fixed ten-year windows indicate that the exchange rate sensitivity of multilateral export prices (in terms of the exporter's local currency) has moved up sharply in recent years for the Asian NIEs and Canada. Estimates obtained when five-year windows are used, although somewhat volatile, shed useful light on these results. For the Asian NIEs, the increased export price sensitivity appears to be strongly related to the effects of the Asian financial crisis. For Canada, the sensitivity of export prices seems to depend on the direction of moves in the exchange rate. Given Canada's dependence on U.S. demand (85 percent of the country's exports go to the United States), Canadian exporters appear to cut their prices in the U.S. market when the U.S. dollar is strong but are hesitant to raise their prices when the greenback is weak. In contrast, the exchange rate sensitivity of export prices for Japan, Germany, and the United States has moved much less over the past couple of decades.

Third, for exports to the United States, profit margins-denominated in the exporter's local currency-have narrowed since the dollar peaked in early 2002. As such, the low level of pass-through in the U.S. market does seem to have taken a toll on profit margins. That said, it remains an open issue as to whether profit margins on exports to the United States are now "too narrow" or margins were unusually high several years ago.

The remainder of this paper is organized as follows. We first consider an analytical framework that highlights some of the factors that are likely to play a role in determining the sensitivity of export prices to the exchange rate. The following section then lays out our empirical strategy and considers some key data. The final two sections present the empirical results and offer some concluding thoughts.

2. An Analytical Framework

This section briefly outlines an analytical framework that provides intuition regarding the key economic factors that determine the extent of exchange rate pass-through. We consider a foreign firm that produces a single differentiated product for sale in $n$ segmented markets. The firm and all of its production are located in market $I$. Sales in markets $2$ through $n$ are exports. The firm's profits are given by:\^3
\[
\sum_{i=1}^{n} p_i q_i - C \left[ \sum_{i=1}^{n} q_i + \frac{\beta_n}{\mu_n} \right]
\]

(1)

where \( p^i \) is the price (in the firm's local currency) charged for sales to market \( i \); \( q^i \) is the quantity sold in market \( i \); and \( C[ \] is total cost as a function of total output (\( \sum q^i \), the price of domestic inputs (\( pd^i \)), and the price of imported inputs in terms of the firm's local currency (\( pm^i \)).

Demand in each market (equation (2)) is a function of the price of the good relative to the average price of competing goods in the buyer's market. The exchange rate, \( e^i \), is defined as the number of units of country \( i \) currency for each unit of country \( I \) currency. The competitors' price in terms of country \( i \) currency is \( pc^i \). In principle, the competitors' price includes the prices of domestic producers in the destination market as well as the prices of third-country exporters to that market. This demand curve reflects not only consumer behavior in the destination market, but also market features such as the degree of concentration and the exporter's market share. Consumer demand, in turn, may depend on the state of the business cycle or other conditions in the destination market.

\[
q_i = Q_i \left[ \frac{e_i p_i}{pc_i}, \text{ other factors in country } i \right] \quad i = 1, \ldots, n \quad \frac{\partial q_i}{\partial \left[ \frac{e_i p_i}{pc_i} \right]} < 0
\]

(2)

Maximization of (1) subject to (2) and taking a first-order logarithmic approximation yields the following relationship for the price charged by the exporting firm (expressed in the firm's local currency):

\[
\frac{1}{n} \left( p_i \right) = \mu_i + \beta_i \ln(MC) + (1 - \beta_i) \ln \left( \frac{pc_i}{e_i} \right), \quad \text{s.t. } p_i \geq MC
\]

(3)

where \( \mu_i \) and \( \beta_i \) are destination-specific coefficients that are functions of the demand curve in each market, and \( MC \) is marginal cost expressed in the exporter's local currency. Differences in \( \mu_i \) (for \( i=1, \ldots, n \)) reflect differences in markups across markets that are not related to prices and costs, whereas differences in \( \beta_i \) determine the responsiveness of markups to changes in marginal cost and competitors' prices in each market. A key feature of equation (3) is the restriction that the coefficients on marginal cost and competitors' prices sum to one. This homogeneity restriction is necessary for long-run monetary neutrality.

For most plausible demand curves, \( \beta_i \) is expected to lie between 0 and 1. As such, the constant markup model is a special case of equation (3) in which \( \beta_i = 1 \) and \( \mu_i \) is the markup over
marginal cost.\(^5\) For \(\beta < 1\), the markup of price over marginal cost depends on both \(\mu\) and \(\beta\). In this case, producers find it optimal to adjust their markups in response to competitors' prices, and they do not fully pass-through changes in marginal cost because of the competitive disadvantage that implies. In general, as \(\beta\) declines, exporting firms find it more difficult to pass through shifts in their marginal costs and are increasingly faced with the choice of matching their competitors' price or exiting the market.

Note that the price of imports in terms of country \(i\)'s currency is just the export price in terms of country \(i\)'s currency multiplied by the exchange rate. Thus, equation (3) can be translated into an equation for country \(i\)'s import prices by adding the logarithm of the exchange rate to both sides:

\[
\ln (e_i p_i) = \ln \left( e_i MC \right) + \left( 1 - \beta_k \right) \ln (p_{e_k})
\]

where all three variables (the price of the good, the firm's marginal cost, and the competitor's price) are now expressed in terms of the currency of country \(i\).

Differentiating equations (3) and (4) yields the following expressions for the "direct effect" of changes in the exchange rate on export prices (equation (3')) and import prices (equation (4')):\(^6\)

\[
\frac{\partial \ln (p_i)}{\partial \ln (e_i)} = \beta_k - 1
\]  

(3')

\[
\frac{\partial \ln (e_i p_k)}{\partial \ln (e_i)} = \beta_k
\]

(4')

The exchange rate's direct effect on the price of exports (denominated in the exporter's local currency) is \(\beta_k - 1\), whereas the direct effect of the same exchange rate move on the price of imports (in terms of the importing-country's currency) is \(\beta_k\). We thus equate \(\beta_k - 1\) with pass-through to import prices and \(\beta_k\) with pass-through to export prices.

With these observations in hand, we can sketch out the implications of various values of \(\beta_k\) for pricing behavior:

- If \(\beta_k = 1\), pass-through to import prices is complete. Correspondingly, exporters do not adjust the price in their local currency in response to an exchange rate move.

- If \(\beta_k = 0\), the import price (in the importing country's currency) is unaffected by the exchange rate move, and the exporters' local-currency price moves one-for-one with the exchange rate.

- As an intermediate case, if \(\beta_k = 0.3\), a one percent depreciation of the importing country's currency would raise import prices 0.3 percent and reduce the local-currency price of exports 0.7 percent.
Notably, equations (3) and (4) describe bilateral trade prices between country \( I \) and country \( i \). It is a straightforward exercise, however, to aggregate these equations across trading partners to find expressions for the multilateral export price of country \( I \) and the multilateral import price of country \( i \). Indeed, aggregate versions of these equations are the basis for the empirical work that is reported in the following sections of this paper.

We finally observe that \( \beta \) and \( \mu \) are not deep, constant parameters of the economic model but may vary over time in response to changes in the frequency and types of economic shocks and the broad features of the economic environment. Specifically, Feenstra, Gagnon, and Knetter (1996) derive a nonlinear relationship between \( \beta \) and the aggregate market share of exporters from a given source country. Gust, Leduc, and Vigfusson (2006) show that, in a world with strategic complementarity among goods, an improvement in the competitive position of foreign exporters relative to domestic firms (owing, for example, to reduced tariff barriers or lower transportation costs) may increase the willingness of foreign exporters to vary the home-currency price of their exports in response to moves in the exchange rate. Taylor (2000) suggests that the "perceived persistence" of economic shocks may affect the extent of pass-through as well.

3. Empirical Strategy and Key Data

3.1 Empirical specification

The baseline model that we use to examine the responsiveness of export prices to changes in the exchange rate is an empirical analog of equation (3). We take export prices denominated in the exporter's currency as the dependent variable (\( PX^e \)). The first explanatory variable, \( E^e \), is the exporting country's nominal effective exchange rate (a trade-weighted average against the currencies of 35 countries, with a rise indicating a depreciation of the exporter's currency). The second explanatory variable, \( PF^e \), is the PPI of the exporting-country, which serves as a proxy for the marginal costs borne by exporting firms. This yields the following empirical model:

\[
\Delta \ln(PX^e) = \mu + \delta(L)\Delta \ln(E^e) + \beta(L)g\Delta \ln(PF^e) + u_t
\]

where \( \delta(\cdot) \) and \( \beta(\cdot) \) are polynomials in \( L \), the lag operator. Accordingly, the value of \( \delta(1) \) is the total exchange rate sensitivity of export prices (denominated in the exporter's currency), and \( \beta(1) \) is the total sensitivity of export prices to shifts in the exporting country's domestic price level. Both of these coefficients are expected to be positive.

Relative to equation (3) above, equation (5) does not include competitors' prices in export markets. We controlled for these prices in a variety of preliminary regressions, and the estimated coefficients were almost uniformly insignificant. For this reason, we have excluded this variable from our specification. The model is estimated using quarterly data. We find that exchange rate pass-through to export prices tends to occur quite rapidly, with the effects fully captured by the contemporaneous change in the exchange rate and a one-quarter lag. The lag structure for \( PF^e \) is identical.
Two other comments about equation (5) are useful. First, note that in the analytical framework outlined above, equation (3) implies that \( \beta_{\text{exp}} \) equals \( (1-\beta_{\text{pf}}) \). This, in turn, suggests that \( \beta_{\text{exp}} \) and \( \beta_{\text{pf}} \) should sum to unity—a relationship that arises as a result of the homogeneity restriction that is imposed on equation (3). We will explicitly test this implication of the homogeneity restriction in our empirical work below. Second, another feature of the analytical framework is that the parameter \( \beta_{\text{exp}} \) governs the extent of exchange rate pass-through into country \( i \)'s import prices (shown in equation (4)) as well as the extent to which shifts in marginal costs are reflected in country \( i \)'s export prices (shown in equation (3)). In other words, the pass-through of exchange rate changes into import prices (expressed in the importing country's currency) is posited to be equivalent to the pass-through of cost shocks into export prices (expressed in the exporting country's currency). To the extent that this is the case empirically, the estimated coefficient on \( \beta_{\text{exp}} \), our proxy for marginal cost, will provide an alternative metric for assessing exchange rate pass-through to import prices.

Finally, we note that the estimated coefficient \( \delta(1) \) reports the average relationship between export prices and the exchange rate across the range of shocks that hit the exchange rate during the sample period. In this respect, our empirical work is distinctly reduced-form in flavor. As further indication of the reduced form nature of our work, we also note that shocks to export prices could at times feedback onto the exchange rate; this may particularly be an issue for a commodity-exporting country such as Canada. We would typically address this endogeneity issue by using instrumental variables, but the availability of plausible instruments for the exchange rate is limited and continuing the search for such instruments is beyond the scope of our paper.

### 3.2 Export price data and the profit margins of foreign exporters

In estimating this model, we use two complementary sources of data. First, with an eye toward examining the pricing behavior of firms exporting to the United States, we employ Bureau of Labor Statistics (BLS) data on bilateral U.S. import prices by region. These bilateral data are available in sufficiently long time series for the European Union, Japan, Canada, and the Asian NIEs. Second, we also study the multilateral export price data for goods exported from these countries—that is, the prices charged to all destinations; these data are drawn from country sources. Throughout this paper, we express the BLS data in terms of the exporting country's currency in order to be comparable with the multilateral export price data. Our examination focuses on the prices of exported goods, including raw materials. We do not consider the behavior of services prices.

The BLS data on prices charged in the U.S. market may behave differently than foreign multilateral export price data for several reasons. First, the quality or product composition of exports to the United States may differ from that to other destinations. Second, the pricing behavior of exporting firms may differ across export destinations, i.e., exporters may engage in price discrimination across their various export destinations. Third, differences in the methodology used to construct the price indexes may also contribute to deviations between them. These possibilities are considered in more detail below.

Despite these potential sources of divergence, Figures 1 and 2 show that the foreign export price data (the dotted lines) and the BLS data (the dashed lines) generally trend together over time. In particular, following the dollar's peak in early 2002, both measures posted declines for the EU and Japan, although the prices charged in the United States fell by more in both cases. For Canada, the U.S. dollar did not decline in earnest against the Canadian dollar until
early 2003, but Canadian export prices and the BLS measure both declined on balance thereafter. (As 85 percent of Canadian exports go to the United States, the two measures move very closely together.) For the Asian NIEs, multilateral export prices climbed in 2004, but the BLS measure of prices charged in the U.S. market continued to drift down. In general, the BLS data showed marked declines following the dollar's peak in early 2002, while multilateral export prices for these economies fell less or posted modest increases.

Figures 1 and 2 also display measures of economy-wide unit labor costs for these countries. To the extent that such measures accurately reflect the costs borne by foreign exporters, movements in the profit margins of exporting firms may be proxied by changes in export prices relative to changes in unit labor costs. Given this proxy for profit margins, the BLS data suggest that foreign margins in the U.S. market recorded notable declines following the dollar's peak in early 2002 (see Table 1). However, similar calculations using multilateral export prices indicate that exporting firms in Japan, Canada, and East Asia eked out gains in their margins from 2002:Q1 through 2004:Q4, with a moderation in unit labor costs helping offset soft or declining multilateral export prices. The European Union is the one region for which multilateral profit margins registered a decline.

This configuration of results suggests that foreign exporters saw their margins compressed in the United States as the dollar depreciated, but they were able to offset this in other markets—likely in markets in which their currencies remained more competitive. (Of course, exporters from the euro area had little scope to pursue this strategy, as the euro moved up against essentially all currencies.)

While our proxy for profit margins on exports to the United States narrowed after early 2002, we do not have sufficient evidence to conclude that the profit margins that prevailed in late 2004 were "too narrow"—profits several years earlier might have been unusually high. As just one case in point, the first three columns of Table 1 compare movements in export prices and unit labor costs over the preceding period, 1995-2002. This exercise suggests that profit margins on exports to the United States posted a dramatic run-up between the dollar's trough in the spring of 1995 and the dollar's peak in early 2002. Indeed, despite the subsequent unwinding, profit margins for Japanese exporters to the United States in late 2004 remained well above those that prevailed in the second quarter of 1995, while profit margins for European Union, Canadian, and Asian NIE exporters were either up some or little changed on balance. On a multilateral basis, the profit margins of exporters from these economies were all up in late 2004 relative to the spring of 1995, albeit to varying degrees.

4. Regression Results

4.1 Benchmark model

Table 2 reports the results obtained when we estimate equation (5). Foreign multilateral export prices denominated in the exporter's currency are regressed on the exporting country's nominal effective exchange rate (NEER) and PPI. Our regressions begin in the early 1980s, except for the aggregate EU where data do not become available until 1989. As noted above, for Canada, PPI data are used explicitly in compiling the export price index, creating a high correlation between export prices and the PPI by construction (Statistics Canada, 2006). For this reason, we use the Canadian CPI as our proxy for the country's domestic prices.

As shown in Table 2, the response of foreign multilateral export prices to movements in the NEER is statistically significant, but the degree of sensitivity varies across countries and regions. Specifically, the estimated coefficients for the European Union as a whole, the United Kingdom, Canada, and the Asian NIEs are all in the neighborhood of 0.3, while the coefficient for Japan is near 0.5. These results suggest that a 10 percent nominal effective depreciation of
the EU currencies, the Canadian dollar, or the Asian NIE currencies would raise the price of exports from these regions about 3 percent (in terms of their own currencies), whereas a similar decline in the nominal effective yen would boost the yen price of Japanese exports 5 percent. (Equivalently, in terms of the currencies of importing countries, European, Canadian, and Asian NIE export prices would decline 7 percent, and Japanese export prices would decline 5 percent.)

In contrast, German domestic-currency export prices have shown surprisingly little responsiveness to the NEER, implying almost complete pass-through in terms of importing countries' currencies. The results for Germany indicate that the country's export prices move closely with the domestic price level. The responsiveness of U.S. export prices to the NEER, shown in the last line of Table 2, is somewhat higher than that for Germany but nevertheless is also quite low. These results, however, do not rule out the possibility that the exchange rate may influence U.S. or German export prices indirectly through effects on the PPI.

As mentioned above, the homogeneity restriction in equation (3) implies that the coefficients on the exchange rate and the price level in the exporting country should sum to one. Hypothesis tests—reported in column (8)—indicate that the homogeneity condition is rejected for Germany and the United Kingdom but is not rejected for the aggregate EU, Japan, Canada, the Asian NIEs and the United States.

To examine the robustness of these results, the upper panel of Table 3 shows estimates obtained when the NEER is replaced by the nominal bilateral exchange rate against the dollar. Two key results emerge from this specification. First, in most cases, foreign multilateral export prices actually appear to be about as sensitive to the dollar as they are to the NEER, and the regression coefficients are estimated with somewhat greater precision. Second, and even more striking, the $R^2$ statistics for this model are as high as—or higher than—those for the baseline model. The homogeneity condition, however, is rejected in every case except the aggregate EU.

The lower panel of Table 3 reports the results obtained when foreign multilateral export prices (denominated in the exporter's currency) are regressed on a streamlined model that includes the nominal bilateral dollar as the only explanatory variable. In this case, the exchange rate sensitivities remain near those shown in Table 2, and—with the notable exception of Germany—the $R^2$ statistics are also broadly similar. Taken together, the results in Table 3 underscore the importance of the dollar and, perhaps, the centrality of the U.S. market in influencing the evolution of the prices of traded goods internationally.

A question that emerges from our work is why the exchange rate sensitivity of export prices is lower in the United States and Germany than in the other countries. Certainly, both the United States and Germany export sophisticated capital goods, which may give them pricing power within certain market niches. This explanation should not be overstated, however, since Japan and the Asian NIEs (at least to some extent) also export these kinds of products. We conjecture that for the United States an additional factor is the very large home market, which may limit firms' incentives to deviate from the prevailing domestic price. German exporters might have experienced similar effects, given both the large domestic market and the deepening of European integration that occurred during the sample period. These hypotheses, however, are tentative and only suggest directions for future work. For example, a careful exploration of the dis-aggregated trade data may help uncover further evidence.
4.2 The exchange rate sensitivity of export prices charged in the U.S. market

The previous regressions have focused on multilateral export prices, i.e., the prices of exports to all markets. In the upper panel of Table 4, we turn to the related issue of whether the prices charged on exports to the United States manifest behavior that differs systematically from the prices charged to other destinations. Because foreign countries do not publish price indexes for their bilateral exports, we use as a proxy-and as the dependent variable in our regressions-the BLS indexes of bilateral U.S. import prices, which we translate into the exporter's currency. These BLS indexes are available in sufficient time series for the European Union, Japan, Canada, and the Asian NIEs. The explanatory variables in these regressions are the nominal bilateral dollar exchange rate and the exporting country's PPI. (The BLS data begin only in 1991; for purposes of comparison, the lower panel of Table 4 reports the results obtained when our benchmark model-equation (5)-is estimated with a sample that also begins in 1991.) As shown in Figure 3, in recent years, exports to the United States have accounted for about 10 percent of exports from Germany and from the EU as a whole, about 15 percent of exports from the United Kingdom, about 20 percent of exports from Japan and the Asian NIEs, and about 85 percent of Canada's exports.

Without exception, the estimated coefficients for the export prices charged in the U.S. market are more sensitive to the exchange rate than is the case for multilateral export prices. As displayed in the upper panel, estimates for all four regions suggest that over the last decade or so, a 10 percent appreciation of the exporter's currency against the dollar has been associated with a 7 to 8 percent decline in export prices charged in the U.S. market (denominated in the currency of the exporting country). In contrast, as shown in the lower panel, for these same four regions, a 10 percent appreciation of their currencies since 1991 would result in a decline in their multilateral export prices ranging from 3 percent to 5 percent.

The greater exchange rate sensitivity of export prices charged in the U.S. market is equivalent to showing that import price pass-through is lower in the United States than in other economies on average, thus confirming results elsewhere in the literature. Consistent with Dornbusch (1987), we would explain the greater willingness of foreign exporters to vary their margins when selling into the U.S. market as reflecting the large size of the U.S. marketplace and the resulting fact that there are competing U.S. producers—or producers from countries whose currencies are closely linked to the dollar—for most goods exported to the United States. In addition, as suggested by Campa and Goldberg (2005), the relative macroeconomic stability that has prevailed in the United States over the last couple of decades has likely played some role as well. Finally, as shown in Figure 3, in every country except Japan, finished goods (i.e., autos, capital goods, and consumer goods) account for a somewhat larger share of exports to the United States than is the case for multilateral exports. Evidence suggests that exchange rate pass-through to the import prices of finished goods is lower than pass-through for more commodity-intensive products.

As noted above, an implication of our analytical framework is that the coefficient \( \beta \) reflects both the extent of exchange rate pass-through to country i's import prices and the extent to which shifts in marginal cost are reflected in export prices. As such, the estimated coefficient on foreign prices, which proxy for marginal cost, should provide an additional window into import price pass-through. For the bilateral export price results shown in the upper panel of Table 4, the estimated coefficients on the exporting country's prices are generally quite low. Notably, these coefficients are much lower than their multilateral counterparts in the lower
panel, again suggesting that import price pass-through in the U.S. market is more muted than in other markets on average. Finally, it is worth noting that for every specification in the upper panel of Table 4, we fail to reject the homogeneity condition that requires the coefficients on the exchange rate and the exporting country's price level to sum to unity.

4.3 Rolling regressions

This section employs the baseline specification outlined in equation (5) to conduct rolling regressions for a number of countries/regions where sufficient data are available. The rolling regressions use a ten-year window and show how the domestic-currency price of multilateral exports responds to movements in the NEER. The goal is to assess whether any of these countries have seen their export prices (denominated in their local currencies) become more sensitive to exchange rate movements, which might be seen as a counterpart to the recent decline in import price pass-through observed in the United States and several other countries. As a robustness check, we also report results obtained when five-year rolling windows are used; although these estimates are somewhat volatile and should be interpreted with caution, they nevertheless provide a useful alternative look at the data.

The results for Germany, which are reported in the top panel of Figure 4, suggest that the exchange rate sensitivity of German export prices has been low and remarkably stable over time, with neither German re-unification in 1990 nor the introduction of the euro in 1999 leaving a perceptible imprint on the estimates. The exchange rate sensitivity of Japanese export prices is markedly higher than for Germany, with the estimates obtained using a ten-year window cycling around 0.5 through most of our sample period and drifting up only slightly of late. The five-year samples, however, show a more striking upward move in recent years.

For the United Kingdom, the estimates obtained using a ten-year window manifest an upward trend through much of the sample period, but this is rapidly reversed in early 2003. We conjecture that the sharp decline in the exchange rate sensitivity of UK export prices at that time reflects the fact that the late-1992 ERM crisis had finally rolled out of the sample. Consistent with this hypothesis, the estimates using a five-year window move down sharply in early 1998. In the most recent five-year and ten-year samples, however, the responsiveness of UK export prices to the exchange rate has again picked up.

For Canada, ten-year rolling windows show the exchange rate sensitivity of export prices (Figure 5) stepping up from near zero for windows ending in the first half of the 1990s to roughly 0.3 to 0.4 in most subsequent ten-year samples. We hypothesize that the timing of this upward move in the sensitivity of export prices is linked to NAFTA and the deepening economic integration with the United States. The results using five-year windows amplify this observation. The exchange rate sensitivity of Canadian export prices seems to have moved inversely with the strength of the U.S. dollar-rising in the mid-1990s as the dollar weakened, falling through the late 1990s and early this decade as the dollar strengthened, and rising over the past couple of years as the dollar again depreciated. Canadian exporters, given their dependence on demand from the United States and the deepening integration between the two countries, have apparently aimed to protect (or bolster) their share of the U.S. market, cutting their prices in the United States when the U.S. dollar appreciates but not fully hiking their U.S. prices when the greenback falls.

For the Asian NIEs, the exchange rate sensitivity of export prices estimated using ten-year samples jumped from 0.1 to 0.5 in the late 1990s, about the time of the Asian financial crisis. In subsequent years, this sensitivity has increased further, to around 0.7. The results obtained using five-year samples shed important light on what is driving these estimates. Specifically,
the exchange rate sensitivity of Asian NIE export prices rose sharply during the time of the Asian financial crisis, suggesting that exporting firms maintained their foreign-currency prices even as exchange rates in the region depreciated sharply. Notably, however, once the period of the financial crisis rolls out of the five-year window, the estimated sensitivity of export prices declines rapidly. As such, our results indicate that the elevated exchange rate sensitivity observed in the ten-year estimates owes more to the effects of the crisis and the immediate aftermath than to subsequent events in the region.

Finally, the bottom panel reports the sensitivity of U.S. export prices to moves in the nominal effective dollar. When a ten-year rolling window is used, we find that this sensitivity has cycled between zero and 0.2 over the past couple of decades and is now statistically significant and near the top of that range. This result indicates that a 10 percent decline in the dollar is associated with a 2 percent rise in U.S. export prices. The estimates obtained using five-year samples show a bit more of an increase, to just under 0.3, in the most recent samples.

4.4 Andrews tests of parameter stability

The results from our rolling regressions suggest that the coefficients in our benchmark specification have changed over the sample period. As a more formal test of this hypothesis, we follow the procedure outlined by Andrews (1993) and perform a recursive Chow test with an unknown break date. Taking the appropriate critical value from Stock and Watson (2003), we reject the null hypothesis that the coefficients in the regression model are constant over time for every country except the United States. As shown in Table 5, the identified break points tend to have intuitive explanations, reflecting the varying experiences of these countries. For example, the break points for the Asian NIEs and Japan come during the height of the Asian financial crisis, while the break point for Germany occurs at the dollar's peak in the mid-1980s. (Given the stability of our estimates for Germany, the presence of a structural break may be somewhat surprising; but the key point is that at the identified break date there is a big move in the German data relative to the customary volatility of the German data.) The break point for the United Kingdom comes somewhat after the ERM crisis, and the one for Canada comes near the loon's all-time low against the U.S. dollar early this decade.

Table 5 also indicates which model parameters shifted significantly before and after the break dates. Confirming our earlier evidence, the responsiveness of export prices to exchange rate movements increased markedly in emerging Asia and Japan and, to a lesser extent, in Canada. We also find that the exchange rate sensitivity of U.S. export prices stepped down significantly near the time of the dollar's peak in the mid-1980s.

4.5 How well do these results explain the recent U.S. experience?

Figure 6 seeks to summarize the implications for U.S. import prices of the rolling regressions reported in Section 4.3. The solid line in the upper panel shows estimates of pass-through to U.S. non-oil import prices obtained from a rolling regression with ten-year windows, as in Marazzi, Sheets, and Vigfusson (2005). The results of this regression indicate that pass-through to U.S. import prices has fallen from about 0.6 for windows ending in the first half of the 1990s to between 0.3 and 0.4 in samples ending in the late 1990s and thereafter. The other line shows a counterfactual U.S. import price response—that is, the estimate of pass-through to U.S. import prices that is implied by weighting up our rolling multilateral export price sensitivities for Germany, Japan, the United Kingdom, Canada, and the Asian NIEs using shares of U.S. imports. (These trading partners account for nearly half of U.S. non-oil imports.)

The striking result is that this counterfactual response declines roughly in sync with the solid line, from 0.8 until the mid-1990s to below 0.6 in the latest ten-year samples. The fact that the
A dashed-dotted line is well above the solid line again confirms that pass-through to the United States is below that to other countries on average. Consistent with this observation, recall that the evidence reported in Table 4 indicates that the relevant issue is not where goods come from but rather their destination. Using the estimates in Table 4, an import-weighted average of multilateral export price sensitivities would imply pass-through to U.S. import prices of roughly 0.2 to 0.3, which is quite close to the estimate for all U.S. import prices. These results suggest that the decline in pass-through to U.S. import prices is not unique to the U.S. market, as this appears to be a feature of multilateral export prices sensitivities as well. What is unique to the United States is the low level of pass-through.

The lower panel of Figure 6 replicates this exercise using estimates from five-year rolling samples. As in the upper panel, the pass-through estimates obtained from U.S. import prices step down during the sample period to around 0.3. The counterfactual response of U.S. import prices (based on multilateral export price elasticities) declines steeply for samples ending until 1998, but then rises back up to between 0.6 and 0.7 for recent periods. While these results should be interpreted with caution (given the relatively short windows used in the estimation), the recent divergence between these two lines reinforces our view that foreign exporters have simply been more willing to vary their margins when selling into the U.S. market. Moreover, this difference in pricing behavior seems, if anything, to have become more pronounced in recent years.

5. Conclusions

This paper complements the recent literature on exchange rate pass-through to import prices by studying the key issues from the opposite side of the transaction—that is, by examining the exchange rate sensitivity of export prices. In the process, we have identified several stylized facts that deepen our understanding of the contours of the pricing of globally traded goods. First, we find strong evidence—based on a range of empirical exercises and data sources—that the prices foreign exporters charge in the U.S. market are more responsive to the exchange rate than is the case for other markets on average. In this respect, the United States is special. Second, we also find evidence that the dollar plays a unique role in the determination of global traded goods prices, apparently reflecting both the prominent international role of the dollar and the centrality of the U.S. marketplace. Third, moves in the exchange rate sensitivity of export prices over time appear to have been significantly affected by country and region-specific factors, including the Asian financial crisis (for emerging Asia), deepening economic integration with the United States (for Canada), and the effects of the 1992 ERM crisis (for the United Kingdom). In our view, further exploration of these results and their attendant implications should provide fertile ground for future research.

References


Figure 1
Figure 2
Figure 3 - Foreign Non-oil Export Shares

*Finished goods include autos, consumer goods, and capital goods.

**Includes intra-regional trade. The solid line does not include Taiwan.
Figure 4 - Rolling Regressions: Response of Export Prices to NEER

*Gray bands represent 95% confidence interval for ten-year sample.*
Figure 5 - Rolling Regressions: Response of Export Prices to NEER (continued)

*Gray bands represent 95% confidence interval for ten-year sample.*
Figure 6 - Rolling Regressions: Response of U.S. Import Prices to NEER

*Gray bands represent 95% confidence interval.
**Based on multilateral export price responses of Asian NIEs, Canada, Germany, Japan, and the United Kingdom; weights reflect the share of each country/region in U.S. non-oil imports and are normalized to one.
Table 1: Foreign Export Prices and Unit Labor Costs (percent change)

<table>
<thead>
<tr>
<th></th>
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<th></th>
</tr>
</thead>
<tbody>
<tr>
<td>European Union: Bilateral U.S. Total</td>
<td>45.9</td>
<td>7.8</td>
<td>38.2</td>
<td>-21.4</td>
<td>2.1</td>
<td>-23.5</td>
</tr>
<tr>
<td>European Union: Bilateral U.S. Manufacturing</td>
<td>45.7</td>
<td>7.8</td>
<td>37.9</td>
<td>-22.7</td>
<td>2.1</td>
<td>-24.8</td>
</tr>
<tr>
<td>European Union: Multilateral</td>
<td>19.4</td>
<td>7.8</td>
<td>11.6</td>
<td>-4.9</td>
<td>2.1</td>
<td>-7.0</td>
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<tr>
<td>Japan: Bilateral U.S.</td>
<td>34.3</td>
<td>-6.5</td>
<td>40.8</td>
<td>-20.4</td>
<td>-12.9</td>
<td>-7.5</td>
</tr>
<tr>
<td>Japan: Multilateral</td>
<td>4.8</td>
<td>-6.5</td>
<td>11.3</td>
<td>-8.9</td>
<td>-12.9</td>
<td>4.0</td>
</tr>
<tr>
<td>Canada: Bilateral U.S. Total</td>
<td>17.7</td>
<td>3.8</td>
<td>13.9</td>
<td>-5.8</td>
<td>-1.1</td>
<td>-4.7</td>
</tr>
<tr>
<td>Canada: Bilateral U.S. Manufacturing</td>
<td>15.6</td>
<td>3.8</td>
<td>11.8</td>
<td>-14.2</td>
<td>-1.1</td>
<td>-13.1</td>
</tr>
<tr>
<td>Canada: Multilateral</td>
<td>2.9</td>
<td>3.8</td>
<td>-0.9</td>
<td>0.6</td>
<td>-1.1</td>
<td>1.7</td>
</tr>
<tr>
<td>Asian NIEs: Bilateral U.S.*,</td>
<td>7.3</td>
<td>-6.6</td>
<td>13.9</td>
<td>-13.0</td>
<td>-2.4</td>
<td>-10.6</td>
</tr>
<tr>
<td>Asian NIEs: Multilateral*</td>
<td>-5.3</td>
<td>-6.6</td>
<td>1.3</td>
<td>2.3</td>
<td>-2.4</td>
<td>4.7</td>
</tr>
</tbody>
</table>

* Includes Hong Kong, Korea, Singapore, and Taiwan; unit labor costs are for Korea.

Source: Bilateral import prices are from the BLS (expressed in terms of exporter's currency); multilateral export prices are from country sources; unit labor costs are from OECD.
Table 2: Response of Foreign Multilateral Export Prices to NEER

<table>
<thead>
<tr>
<th>Country</th>
<th>Exchange Rate: Response (1)</th>
<th>Exchange Rate: 95% Confidence Band (2)</th>
<th>Exporting Country's Prices: Response (3)</th>
<th>Exporting Country's Prices: 95% Confidence Band (4)</th>
<th>R² (5)</th>
<th>Start Date (6)</th>
<th>End Date (7)</th>
<th>Homogeneity Test: T Value* (8)</th>
</tr>
</thead>
<tbody>
<tr>
<td>European Union</td>
<td>0.26</td>
<td>(0.08, 0.44)</td>
<td>0.75</td>
<td>(0.15, 1.35)</td>
<td>0.31</td>
<td>1989:Q2</td>
<td>2004:Q1</td>
<td>0.02</td>
</tr>
<tr>
<td>European Union: of which:</td>
<td>0.04</td>
<td>(0.02, 0.07)</td>
<td>0.83</td>
<td>(0.72, 0.94)</td>
<td>0.81</td>
<td>1980:Q1</td>
<td>2004:Q4</td>
<td>-2.43</td>
</tr>
<tr>
<td>Germany</td>
<td></td>
<td></td>
<td></td>
<td></td>
<td></td>
<td></td>
<td></td>
<td></td>
</tr>
<tr>
<td>European Union: of which:</td>
<td>0.31</td>
<td>(0.19, 0.42)</td>
<td>0.22</td>
<td>(0.09, 0.35)</td>
<td>0.40</td>
<td>1980:Q2</td>
<td>2004:Q4</td>
<td>-7.03</td>
</tr>
<tr>
<td>United Kingdom</td>
<td></td>
<td></td>
<td></td>
<td></td>
<td></td>
<td></td>
<td></td>
<td></td>
</tr>
<tr>
<td>Japan</td>
<td>0.47</td>
<td>(0.41, 0.53)</td>
<td>0.35</td>
<td>(0.11, 0.59)</td>
<td>0.87</td>
<td>1980:Q1</td>
<td>2004:Q4</td>
<td>-1.49</td>
</tr>
<tr>
<td>Canada</td>
<td>0.29</td>
<td>(0.09, 0.49)</td>
<td>0.31</td>
<td>(-0.09, 0.72)</td>
<td>0.21</td>
<td>1980:Q1</td>
<td>2004:Q4</td>
<td>-1.62</td>
</tr>
<tr>
<td>Asian NIEs</td>
<td>0.24</td>
<td>(0.08, 0.41)</td>
<td>1.01</td>
<td>(0.68, 1.33)</td>
<td>0.53</td>
<td>1981:Q3</td>
<td>2004:Q4</td>
<td>1.45</td>
</tr>
<tr>
<td>Memo: United States</td>
<td>0.16</td>
<td>(0.08, 0.24)</td>
<td>0.72</td>
<td>(0.53, 0.92)</td>
<td>0.43</td>
<td>1980:Q1</td>
<td>2004:Q4</td>
<td>-1.12</td>
</tr>
</tbody>
</table>

* Bold indicates significance at 95% level.
Table 3 - Panel 1: Response of Foreign Multilateral Export Prices to U.S. Dollar

<table>
<thead>
<tr>
<th>Country</th>
<th>Exchange Rate: Response (1)</th>
<th>Exchange Rate: 95% Confidence Band (2)</th>
<th>Exporting Country's Prices: Response (3)</th>
<th>Exporting Country's Prices: 95% Confidence Band (4)</th>
<th>$R^2$ (5)</th>
<th>Start Date (6)</th>
<th>End Date (7)</th>
<th>Homogeneity Test: T Value* (8)</th>
</tr>
</thead>
<tbody>
<tr>
<td>European Union</td>
<td>0.23</td>
<td>(0.11, 0.35)</td>
<td>0.68</td>
<td>(0.13, 1.22)</td>
<td>0.42</td>
<td>1989:Q2</td>
<td>2004:Q1</td>
<td>-0.34</td>
</tr>
<tr>
<td>European Union: of which: Germany</td>
<td>0.03</td>
<td>(0.02, 0.05)</td>
<td>0.81</td>
<td>(0.70, 0.92)</td>
<td>0.81</td>
<td>1980:Q1</td>
<td>2004:Q4</td>
<td>-3.03</td>
</tr>
<tr>
<td>European Union: of which: United Kingdom</td>
<td>0.22</td>
<td>(0.14, 0.30)</td>
<td>0.17</td>
<td>(0.04, 0.30)</td>
<td>0.43</td>
<td>1980:Q2</td>
<td>2004:Q4</td>
<td>-10.43</td>
</tr>
<tr>
<td>Japan</td>
<td>0.45</td>
<td>(0.41, 0.49)</td>
<td>0.33</td>
<td>(0.13, 0.52)</td>
<td>0.92</td>
<td>1980:Q1</td>
<td>2004:Q4</td>
<td>-2.30</td>
</tr>
<tr>
<td>Canada</td>
<td>0.28</td>
<td>(0.09, 0.48)</td>
<td>0.18</td>
<td>(-0.22, 0.58)</td>
<td>0.21</td>
<td>1980:Q1</td>
<td>2004:Q4</td>
<td>-2.37</td>
</tr>
<tr>
<td>Asian NIEs</td>
<td>0.40</td>
<td>(0.30, 0.50)</td>
<td>0.87</td>
<td>(0.63, 1.11)</td>
<td>0.74</td>
<td>1981:Q3</td>
<td>2004:Q4</td>
<td>2.24</td>
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</tbody>
</table>

* Bold indicates significance at 95% level.

Table 3 - Panel 2: Response of Foreign Multilateral Export Prices to U.S. Dollar

<table>
<thead>
<tr>
<th>Country</th>
<th>Exchange Rate: Response (1)</th>
<th>Exchange Rate: 95% Confidence Band (2)</th>
<th>$R^2$ (3)</th>
<th>Start Date (4)</th>
<th>End Date (5)</th>
</tr>
</thead>
<tbody>
<tr>
<td>European Union</td>
<td>0.23</td>
<td>(0.11, 0.35)</td>
<td>0.35</td>
<td>1989:Q2</td>
<td>2004:Q1</td>
</tr>
<tr>
<td>European Union: of which: Germany</td>
<td>0.09</td>
<td>(0.06, 0.12)</td>
<td>0.36</td>
<td>1980:Q1</td>
<td>2004:Q4</td>
</tr>
<tr>
<td>European Union: of which: United Kingdom</td>
<td>0.27</td>
<td>(0.20, 0.34)</td>
<td>0.37</td>
<td>1980:Q2</td>
<td>2004:Q4</td>
</tr>
<tr>
<td>Japan</td>
<td>0.47</td>
<td>(0.43, 0.51)</td>
<td>0.90</td>
<td>1980:Q1</td>
<td>2004:Q4</td>
</tr>
<tr>
<td>Canada</td>
<td>0.30</td>
<td>(0.10, 0.49)</td>
<td>0.17</td>
<td>1980:Q1</td>
<td>2004:Q4</td>
</tr>
<tr>
<td>Asian NIEs</td>
<td>0.47</td>
<td>(0.34, 0.60)</td>
<td>0.53</td>
<td>1981:Q3</td>
<td>2004:Q4</td>
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</tbody>
</table>
Table 4 - Panel 1: Response of Export Prices in U.S. Market to U.S. Dollar**

<table>
<thead>
<tr>
<th>Country</th>
<th>Exchange Rate: Response (1)</th>
<th>Exchange Rate: 95% Confidence Band (2)</th>
<th>Exporting Country's Prices: Response (3)</th>
<th>Exporting Country's Prices: 95% Confidence Band (4)</th>
<th>R² (5)</th>
<th>Start Date (6)</th>
<th>End Date (7)</th>
<th>Homogeneity Test: T Value* (8)</th>
</tr>
</thead>
<tbody>
<tr>
<td>European Union: Total</td>
<td>0.70</td>
<td>(0.64, 0.77)</td>
<td>0.32</td>
<td>(0.04, 0.60)</td>
<td>0.95</td>
<td>1991:Q1</td>
<td>2004:Q3</td>
<td>0.16</td>
</tr>
<tr>
<td>European Union: Manufacturing</td>
<td>0.70</td>
<td>(0.64, 0.76)</td>
<td>0.15</td>
<td>(-0.10, 0.40)</td>
<td>0.96</td>
<td>1991:Q1</td>
<td>2004:Q3</td>
<td>-1.14</td>
</tr>
<tr>
<td>Japan</td>
<td>0.78</td>
<td>(0.72, 0.83)</td>
<td>-0.11</td>
<td>(-0.63, 0.40)</td>
<td>0.98</td>
<td>1991:Q1</td>
<td>2004:Q3</td>
<td>-1.28</td>
</tr>
<tr>
<td>Canada: Total</td>
<td>0.73</td>
<td>(0.42, 1.04)</td>
<td>0.09</td>
<td>(-1.11, 1.29)</td>
<td>0.53</td>
<td>1991:Q1</td>
<td>2004:Q3</td>
<td>-0.29</td>
</tr>
<tr>
<td>Canada: Manufacturing</td>
<td>0.79</td>
<td>(0.65, 0.94)</td>
<td>0.33</td>
<td>(-0.24, 0.89)</td>
<td>0.85</td>
<td>1991:Q1</td>
<td>2004:Q3</td>
<td>0.40</td>
</tr>
<tr>
<td>Asian NIEs</td>
<td>0.78</td>
<td>(0.71, 0.86)</td>
<td>0.26</td>
<td>(0.07, 0.44)</td>
<td>0.95</td>
<td>1991:Q1</td>
<td>2004:Q3</td>
<td>0.43</td>
</tr>
</tbody>
</table>

* Bold indicates significance at 95% level.
** BLS bilateral import price index expressed in terms of exporting-country's currency.
Table 4 - Panel 2: Response of Foreign Multilateral Export Prices to NEER

<table>
<thead>
<tr>
<th>Country</th>
<th>Exchange Rate: Response (1)</th>
<th>Exchange Rate: 95% Confidence Band (2)</th>
<th>Exporting Country's Prices: Response (3)</th>
<th>Exporting Country's Prices: 95% Confidence Band (4)</th>
<th>R² (5)</th>
<th>Start Date (6)</th>
<th>End Date (7)</th>
<th>Homogeneity Test: T Value* (8)</th>
</tr>
</thead>
<tbody>
<tr>
<td>European Union</td>
<td>0.32</td>
<td>(0.11, 0.53)</td>
<td>0.69</td>
<td>(0.07, 1.31)</td>
<td>0.35</td>
<td>1991:Q2</td>
<td>2004:Q1</td>
<td>0.03</td>
</tr>
<tr>
<td>Japan</td>
<td>0.49</td>
<td>(0.40, 0.59)</td>
<td>0.29</td>
<td>(-0.61, 1.18)</td>
<td>0.85</td>
<td>1991:Q2</td>
<td>2004:Q4</td>
<td>-0.48</td>
</tr>
<tr>
<td>Canada</td>
<td>0.46</td>
<td>(0.21, 0.72)</td>
<td>1.18</td>
<td>(0.05, 2.30)</td>
<td>0.40</td>
<td>1991:Q2</td>
<td>2004:Q4</td>
<td>1.07</td>
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<tr>
<td>Asian NIEs</td>
<td>0.54</td>
<td>(0.25, 0.82)</td>
<td>1.04</td>
<td>(0.59, 1.49)</td>
<td>0.67</td>
<td>1991:Q2</td>
<td>2004:Q4</td>
<td>2.68</td>
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</table>

* Bold indicates significance at 95% level.

Table 5: Tests for Structural Breaks

<table>
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</thead>
<tbody>
<tr>
<td>Asian NIES</td>
<td>0.0019</td>
<td>0.0431</td>
<td>0.5296</td>
<td>-0.0081</td>
<td>0.7173</td>
<td>1.2920</td>
<td>1997:Q3</td>
<td>16.29</td>
</tr>
<tr>
<td>Canada</td>
<td>0.0041</td>
<td>0.2395</td>
<td>0.0595</td>
<td>-0.0103</td>
<td>0.3504</td>
<td>2.6067</td>
<td>2001:Q2</td>
<td>3.98</td>
</tr>
<tr>
<td>Germany</td>
<td>0.0034</td>
<td>-0.0088</td>
<td>0.6721</td>
<td>0.0007</td>
<td>0.0595</td>
<td>0.7009</td>
<td>1985:Q2</td>
<td>4.28</td>
</tr>
<tr>
<td>Japan</td>
<td>0.0055</td>
<td>0.4688</td>
<td>0.1486</td>
<td>-0.0004</td>
<td>0.6309</td>
<td>1.3025</td>
<td>1998:Q1</td>
<td>6.70</td>
</tr>
<tr>
<td>United Kingdom</td>
<td>0.0121</td>
<td>0.2975</td>
<td>0.1989</td>
<td>-0.0009</td>
<td>0.2953</td>
<td>0.1437</td>
<td>1994:Q2</td>
<td>8.51</td>
</tr>
<tr>
<td>United States</td>
<td>0.0187</td>
<td>0.5482</td>
<td>0.3938</td>
<td>0.0022</td>
<td>0.1067</td>
<td>0.6212</td>
<td>1985:Q2</td>
<td>2.98</td>
</tr>
</tbody>
</table>

* Italics indicates--conditioning on a break being present--a rejection of the null hypothesis that these coefficients are equal before and after the break. Critical values are taken from a standard normal distribution, which is valid assuming that there is a break.

** Bold indicates rejection of the null hypothesis of no break using a 95% critical value, which is taken from Stock and Watson (2003, p.471).
Footnotes

1. Frankel, Parsley, and Wei study exchange rate pass-through to the prices of eight narrowly defined imported goods, while the other papers focus on exchange rate pass-through to broader measures of import prices. Return to text

2. Bussiere (2004) has also done work along these lines. He studies the exchange rate sensitivity of both import and export prices for the G-7 countries and probes for evidence of non-linearities. Return to text

3. This model is used in Gagnon and Knetter (1995) and derived more formally in Knetter (1995).

4. An appreciation of the exporter's currency may reduce the price of imported intermediates and, thus, reduce the costs borne by the exporting firm. Gron and Swenson (2000) show that this is one reason that pass-through may be less than one. (Our empirical work below does not control for imported intermediate inputs, given the limited availability of such data.)

5. The familiar constant markup model is derived by setting \( \beta = 1 \) and using the approximation \( \ln(1 + \frac{\mu}{\mu}) \approx 1 + \frac{\mu}{\mu} \), yielding \( p = (1 + \frac{\mu}{\mu})MC \). When marginal cost equals average cost, then \( \beta \) is the profit margin. Return to text

6. These derivatives are obtained when other variables and the coefficients do not respond to moves in the exchange rate. Return to text

7. The number of countries included in the exchange rate calculation is reduced to the extent that the number of countries in a regional aggregate exceeds one. For example, the regional aggregate for the Asian NIEs includes four countries, so the exchange rate in this case is a trade-weighted average against the currencies of 32 other countries. Return to text

8. While the PPI is probably more closely related to firms' average costs than to firms' marginal costs, no clearly superior proxy for marginal costs is available. That said, we experimented with specifications that used economy-wide unit labor costs as an alternative proxy. We found that the estimated exchange rate sensitivities of export prices were similar to those we obtain with the PPI.

9. In equation (3), the coefficient on the exchange rate is \(-(1-\beta)\). In equation (5), however, the definition of the exchange rate has been inverted so that an increase in the index is a depreciation of the exporter's currency, and this yields the relationship between \( \beta \) and \( \beta \) indicated in the text. Return to text

10. The Asian NIEs include Hong Kong, Korea, Singapore, and Taiwan. Return to text

11. The multilateral export price series that we use for the United Kingdom excludes oil. Canada-the other major oil-exporting country that we study-does not publish a measure of export prices that excludes oil, so we use the price index for total exports. For Germany, multilateral export prices prior to 1991 are for West Germany only. Finally, multilateral export price data for the aggregate European Union, Germany, and the United Kingdom include intra-EU trade. Return to text

12. The IMF Balance of Payments Manual (1993), which outlines international standards for balance of payments statistics, indicates that "exports and imports of goods [should be] recorded at market values at points of uniform valuation, that is, the customs frontiers of exporting economies." Consistent with this statement, bilateral U.S. import prices have the objective of capturing the price of the good at the port of export (BLS, 1997), and foreign multilateral export prices presumably have a similar objective. As such, these measures should be comparable conceptually. Nevertheless, across the array of countries that we study, there are inevitable differences in the methodology used to collect and compile trade price data. For example, the Canadian export price index is constructed using data from the producer price index, rather than independently sampled export prices (Statistics Canada,
In addition, for most of the countries that we study, the export price data are quality-adjusted price indexes, but two notable exceptions are the aggregate data for the European Union (from Eurostat) and the data for Hong Kong, which in both cases are unit values. 

13. This proxy for profit margins is subject to some caveats. First, we use economy-wide unit labor costs because data for the export sector alone are not available. As such, this proxy will be informative only if the unit labor costs of exporting firms move broadly in tandem with aggregate unit labor costs. Second, by relying on unit labor cost data, this proxy does not directly capture moves in the costs of capital or materials.

14. Equivalently, the results suggest that a 10 percent appreciation of these currencies against the dollar would raise the price of U.S. imports from these trading partners about 2 to 3 percent.

15. For several of these economies, the sensitivity of multilateral export prices to the exchange rate increased markedly in the 1991 to 2004 period, relative to the longer samples reported in Table 2. We examine this issue in more detail in the following section.


17. In a careful study of the determinants of import price pass-through for a panel of OECD countries, Campa and Goldberg find that pass-through is positively related to inflation, money growth, and nominal exchange rate volatility.

18. For example, we find that over the past decade, a 10 percent depreciation of the dollar has typically raised U.S. finished-goods import prices 3 percentage points less than has been the case for other U.S. non-oil import prices. (Footnote 24 provides details regarding the regression specification used to obtain these results.)

19. Another explanation for the higher exchange rate sensitivity of export prices charged in the U.S. market—which cannot be completely ruled out—is that there are differences in the construction of U.S. bilateral import prices and foreign multilateral export prices that tend to be manifest in differing sensitivities to the exchange rate.

20. Notably, at the time of re-unification, exports from East Germany were only a fraction of those from West Germany. (The IMF's Direction of Trade Statistics Yearbook (1993) reports that East German exports in 1989 were just $22.2 billion, compared with West German exports that year of $341.2 billion.)

21. The fact that the Canadian export price index is constructed using trade-weighted producer prices bears on the interpretation of these results. In particular, due to this feature of the data, evidence of increased responsiveness of Canadian export prices may result from a change in the price-setting behavior of exporters, but it may also reflect an increasing convergence in the behavior of domestic prices and export prices or a rising share of exports in domestic production. That said, NAFTA and increased integration with the United States might reasonably be thought to have contributed to any or all of these developments.

22. For example, vertical integration could heighten the sensitivity of Canadian export prices to exchange rate moves, as a decline in the U.S. dollar would lower the cost of U.S.-made inputs for Canadian exporters (in terms of their local currency) and, thus, provide increased scope for exporters to lower their Canadian-dollar price.

23. We regress U.S. non-oil import prices on (1) the import-weighted exchange value of the dollar against the currencies of 35 countries and (2) a similarly weighted index of foreign consumer prices. As in our other regressions, we do not include commodity prices as a separate control variable; including commodity prices would yield lower estimates of pass-through.
Precautionary Demand for Foreign Assets in Sudden Stop Economies: An Assessment of the New Mercantilism
Ceyhun Bora Durdu, Enrique G. Mendoza, and Marco E. Terrones
2007-911 (December 2007)

Abstract: Financial globalization had a rocky start in emerging economies hit by Sudden Stops. Foreign reserves have grown very rapidly since then, as if those countries were practicing a New Mercantilism that views foreign reserves as a war-chest for defense against Sudden Stops. This paper conducts a quantitative assessment of this argument using a stochastic intertemporal equilibrium framework in which precautionary foreign asset demand is driven by output variability, financial globalization, and Sudden Stop risk. In this framework, credit constraints produce endogenous Sudden Stops. We find that financial globalization and Sudden Stop risk can explain the surge in reserves but output variability cannot. These results hold using the intertemporal preferences of the Bewley-Aiyagari-Hugget precautionary savings model or the Uzawa-Epstein setup with endogenous impatience.

Full paper(517 KB PDF)

The Transmission of Domestic Shocks in the Open Economy
Christopher J. Erceg, Christopher Gust, and David Lopez-Salido
2007-906 (November 2007)

Abstract: This paper uses an open economy DSGE model to explore how trade openness affects the transmission of domestic shocks. For some calibrations, closed and open economies appear dramatically different, reminiscent of the implications of Mundell-Fleming style models. However, we argue such stark differences hinge on calibrations that impose an implausibly high trade price elasticity and Frisch elasticity of labor supply. Overall, our results suggest that the main effects of openness are on the composition of expenditure, and on the wedge between consumer and domestic prices, rather than on the response of aggregate output and domestic prices.

Full paper(404 KB PDF)
Three Great American Disinflations
Michael Bordo, Christopher Erceg, Andrew Levin, and Ryan Michaels
2007-898 (June 2007)

Abstract: This paper analyzes the role of transparency and credibility in accounting for the widely divergent macroeconomic effects of three episodes of deliberate monetary contraction: the post-Civil War deflation, the post-WWI deflation, and the Volcker disinflation. Using a dynamic general equilibrium model in which private agents use optimal filtering to infer the central bank's nominal anchor, we demonstrate that the salient features of these three historical episodes can be explained by differences in the design and transparency of monetary policy, even without any time variation in economic structure or model parameters. For a policy regime with relatively high credibility, our analysis highlights the benefits of a gradualist approach (as in the 1870s) rather than a sudden change in policy (as in 1920-21). In contrast, for a policy institution with relatively low credibility (such as the Federal Reserve in late 1980), an aggressive policy stance can play an important signalling role by making the policy shift more evident to private agents.

Full paper(299 KB PDF)

Oil Shocks and External Adjustment
Martin Bodenstein, Christopher J. Erceg, and Luca Guerrieri
2007-897 (June 2007)

Abstract: This paper investigates how oil price shocks affect the trade balance and terms of trade in a two country DSGE model. We show that the response of the external sector depends critically on the structure of financial market risk-sharing. Under incomplete markets, higher oil prices reduce the relative wealth of an oil-importing country, and induce its nonoil terms of trade to deteriorate, and its nonoil trade balance to improve. The magnitude of the nonoil terms of trade response hinges on structural parameters that affect the divergence in wealth effects across oil importers and exporters, including the elasticity of substitution between oil and other inputs in production, and the discount factor. By contrast, cross-country wealth differences effectively disappear under complete markets, with the implication that oil shocks have essentially no effect on the nonoil terms of trade or the nonoil trade balance.

Full paper(386 KB PDF)
The Stability of Large External Imbalances: The Role of Returns Differentials
Stephanie E. Curcuru, Tomas Dvorak, and Francis E. Warnock
2007-894  (April 2007)

Abstract: Were the U.S. to persistently earn substantially more on its foreign investments (“U.S. claims”) than foreigners earn on their U.S. investments (“U.S. liabilities”), the likelihood that the current environment of sizeable global imbalances will evolve in a benign manner increases. However, utilizing data on the actual foreign equity and bond portfolios of U.S. investors and the U.S. equity and bond portfolios of foreign investors, we find that the returns differential of U.S. claims over U.S. liabilities is essentially zero. Ending our sample in 2005, the differential is positive, whereas through 2004 it is negative; in both cases the differential is statistically indecipherable from zero. Moreover, were it not for the poor timing of investors from developed countries, who tend to shift their U.S. portfolios toward (or away from) equities prior to the subsequent underperformance (or strong performance) of equities, the returns differential would be even lower. Thus, in the context of equity and bond portfolios we find no evidence that the U.S. can count on earning more on its claims than it pays on its liabilities.

Full paper(171 KB PDF)

Optimal Fiscal and Monetary Policy with Costly Wage Bargaining
David M. Arseneau and Sanjay K. Chugh
2007-893  (April 2007)

Abstract: Costly nominal wage adjustment has received renewed attention in the design of optimal policy. In this paper, we embed costly nominal wage adjustment into the modern theory of frictional labor markets to study optimal fiscal and monetary policy. Our main result is that the optimal rate of price inflation is highly volatile over time despite the presence of sticky nominal wages. This finding contrasts with results obtained using standard sticky-wage models, which employ Walrasian labor markets at their core. The presence of shared rents associated with the formation of long-term employment relationships sets our model apart from previous work on this topic. The existence of rents implies that the optimal policy is willing to tolerate large fluctuations in real wages that would otherwise not be tolerated in a standard model with Walrasian labor markets; as a result, any concern for stabilizing nominal wages does not translate into a concern for stabilizing nominal prices. Our model also predicts that smoothing of labor tax rates over time is a much less quantitatively-important goal of policy than standard models predict. Our results demonstrate that the level at which nominal wage rigidity is modeled -- whether simply lain on top of a Walrasian market or articulated in the context of an explicit relationship between workers and firms -- can matter a great deal for policy recommendations.

Full paper(469 KB PDF)
U.S. External Adjustment: Is It Disorderly? Is It Unique? Will It Disrupt the Rest of the World?
Steven B. Kamin, Trevor A. Reeve, and Nathan Sheets
2007-892 (April 2007)

Abstract: In recent years, a number of studies have analyzed the experiences of a broad range of industrial economies during periods when their current account deficits have narrowed. Such studies identified systematic aspects of external adjustment, but it is unclear how good a guide the experience of other countries may be to the effects of a future narrowing of the U.S. external imbalance. In contrast, this paper focuses in depth on the historical experience of external adjustment in the United States. Using data from the past thirty-five years, we compare economic performance in episodes during which the U.S. trade balance deteriorated and episodes during which it adjusted. We find trade balance adjustment to have been generally benign: U.S. real GDP growth tended to fall, but not to a statistically significant extent; housing construction slumped; inflation generally rose modestly; and although nominal interest rates tended to rise, real interest rates fell. The paper then compares these outcomes to those in foreign industrial economies. We find that the economic performance of the United States during periods of external adjustment is remarkably similar to the foreign experience. Finally, we also examine the performance of the foreign industrial economies during the periods of U.S. deterioration and adjustment. Contrary to concerns that U.S. adjustment will prove injurious to foreign economies, our analysis suggests that the foreign economies fared reasonably well during past periods when the U.S. trade deficit narrowed: the growth of domestic demand and real GDP abroad generally strengthened during such episodes, although inflation and interest rates tended to rise as well.

Full paper (186 KB PDF)

Some Simple Tests of the Globalization and Inflation Hypothesis
Jane Ihrig, Steven B. Kamin, Deborah Lindner, and Jaime Marquez
2007-891 (April 2007)

Abstract: This paper evaluates the hypothesis that globalization has increased the role of international factors and decreased the role of domestic factors in the inflation process in industrial economies. Toward that end, we estimate standard Phillips curve inflation equations for 11 industrial countries and use these estimates to test several predictions of the globalization and inflation hypothesis. Our results provide little support for that hypothesis. First, the estimated effect of foreign output gaps on domestic consumer price inflation is generally insignificant and often of the wrong sign. Second, we find no evidence that the trend decline in the sensitivity of inflation to the domestic output gap observed in many countries owes to globalization. Finally, and most surprisingly, our econometric results indicate no increase over time in the responsiveness of inflation to import prices for most countries. However, even though we find no evidence that globalization is affecting the parameters of the inflation process, globalization may be helping to stabilize real GDP and hence inflation. Over time, the volatility of real GDP growth has declined by more than the volatility of domestic demand, suggesting that net exports increasingly are acting to buffer output from fluctuations in domestic demand.

Full paper (664 KB PDF)
Dollarization and Financial Integration
Cristina Arellano and Jonathan Heathcote
2007-890 (February 2007)

Abstract: How does a country’s choice of exchange rate regime impact its ability to borrow from abroad? We build a small open economy model in which the government can potentially respond to shocks via domestic monetary policy and by international borrowing. We assume that debt repayment must be incentive compatible when the default punishment is equivalent to permanent exclusion from debt markets. We compare a floating regime to full dollarization. We find that dollarization is potentially beneficial, even though it means the loss of the monetary instrument, precisely because this loss can strengthen incentives to maintain access to debt markets. Given stronger repayment incentives, more borrowing can be supported, and thus dollarization can increase international financial integration. This prediction of theory is consistent with the experiences of El Salvador and Ecuador, which recently dollarized, as well as with that of highly-indebted countries like Italy which adopted the Euro as part of Economic and Monetary Union. In each case, spreads on foreign currency government debt declined substantially around the time of regime change.

Full paper (418 KB PDF)